

# STAGES



Newsletter of the AFS Early  
Life History Section

Volume 20, Number 2

September 1999

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- President's message
- News from the regions
  - Western
- Report from AFS 99
- ELHS Business meeting
- Upcoming meetings



**1st Biennial Meeting on the Biology of Tautog and Cunner:** Nov 30 - Dec 1, Mystic, CT

**Ethology, and Evolutionary Ecology of Fishes:** May 20-24, Athens, GA

**4th International Larval Biology Meeting:** June 24 -28, Santa Cruz, CA

**24th Annual Larval Fish Conference:** Nov 5- 10, Gulf Shores, AL

## PRESIDENT'S MESSAGE

This message is pragmatic, it is not broadly philosophical. While this column can be used to air ideas about the conduct of the science that we do, the study of the early life history of fishes, or to project a vision of where our organization ought to go in support of this science, it must be used occasionally to put out a call, a plea, to simply keep the organization functioning.

Ours is a worthwhile organization: we provide a forum for discussion and a medium for the dissemination of scientific information. We have good meetings; we have a good newsletter, *STAGES*. But as with any organization, there are services to be provided and roles to be assumed. We currently need replacements for all of our Regional Representatives, those who report in these pages, on the activities of our colleagues in various areas of the United States, Canada and abroad. Our present Representatives have served long and hard.

There are benefits to service in the Early Life History Section. Beyond the sense of service to an active and worthwhile organization, benefits include the establishment of contact and networks with colleagues. I highly recommend this service duty to young, recently accomplished, degree recipients, inasmuch as it opens opportunities for exposure and communication with the scientific community at large. Service as a Regional Representative provides first hand linkage with who is doing what and where, and with what support. Regional Representatives are elected by the membership. We are planning election for Regional Representatives this autumn. I invite all to consider serving in one of these posts or nominating a willing colleague to do so. Please provide me with nominations, as soon as possible, so that ballots can be prepared and mailed.

*J. Jeff Govoni*  
*ELHS President*

## Masthead

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# Passing Torches !

To paraphrase a great man's words on a far more auspicious occasion than this, "The torch has been passed to a new generation of..." ELHer's. The end of the year marks changes for the ELHS of AFS. There are two important positions within the section that are not elected, but are appointed by and retained at the pleasure of the President. These positions are the editor of STAGES and the section web master.

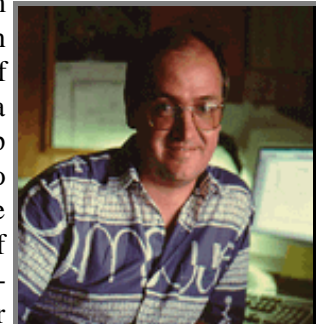
For the past five years, Tom Miller has held the reins for STAGES. In that time, he has produced 15 editions of STAGES, moved production from a offset-based printing to modern desktop publishing, and has provided access to STAGES on the web. This will be the



*Perce Powell - new editor*

last edition of STAGES produced under Tom's guidance. Though we are sad to see

him step down, we look forward with excitement to a new era for STAGES under the capable hands of Perce Powell.



*Tom Miller - outgoing editor*

With the ever growing presence of the web in our lives, it was only a matter of time before the ELHS developed a presence on the web. The initial effort was lead by former ELHS president Darrel Snyder, and then ably brought to fruition by John Dower. John has been webmaster for the section for the last three years. If you haven't visited the sections site, you should do so ([www.eos.ubc.ca/afs\\_early](http://www.eos.ubc.ca/afs_early)). But for him too, it is now time to stand aside. Following in John's footsteps will be Jim Rice. We look forward to continued growth of the ELHS web site under Jim's Guidance.



*Jim Rice - new webmaster*



*John Dower - outgoing web master*

# Larval 2000

## **4th International Larval Biology Meeting Santa Cruz, CA June 24th to 28th, 2000**

The larval biology meetings started in 1993 as a biennial forum for work on the ecology and evolutionary biology of larval stages (or propagules) of all aquatic organisms. The first meeting was by the State University of New York, Stony Brook. The second meeting was in 1995 at Harbor Branch Oceanographic Institution in Florida (*see STAGES - May 1996*) The third meeting was held in Melbourne, Australia in 1998. The meetings are quite informal and consist of mini-symposia and reports on research in progress. The aim is to cover a wide taxonomic range.

The 2000 meeting will be held at the University of California, Santa Cruz (UCSC). The campus is built on a hill over-looking Santa Cruz, a coastal town of about 60 000 people just south of San Francisco in California, USA.

The organizing committee is Pete Raimondi (UCSC, Convenor), Anthony Boxshall (UCSC, Campus Organiser), Donal Manahan (University of Southern California), Dick Zimmer-Faust (UCLA), Rich Emlet (University of Oregon), Mark Carr (UCSC).

Details of the conference are available at <http://www.biology.UCSC.EDU/larval2000>. The site includes a preliminary schedule, and registration information.

Past Larval Biology meetings have been extremely good. Although larval fish are not the sole focus, ELHSers will find lots to interest them in Santa Cruz. There are common issues, such as ontogenetic habitat and diet shifts, that face all aquatic animals. Hearing how researchers address these questions in other taxa will enrich our own field



## NEWS FROM THE REGIONS

**W**estern Region. **Dan Margulies, Inter-American Tropical Tuna Commission, Scripps Institute of Oceanography, 8604 La Jolla Shores Drive, La Jolla CA 92307. (Ph: (619) 546-7120, Fax: (619) 546-7133, Email: dmargulies@iattc.ucsd.edu.**

### **Institute of Marine Science, University of Alaska Fairbanks**

Evelyn Brown and colleagues report on their work on the effects of herring egg distribution and ecology on year class strength and adult distribution. The overall objective of this project was to refine our understanding of Pacific herring population structure and trends in Prince William Sound (PWS) by examining current and historic data on fish distribution within a spatially-explicit ecological context. The tested hypothesis was that adult Pacific herring year-class strength and distribution is dependent on the initial distribution and density of herring embryos, modulated by ocean conditions within distinct spatial regions. The components of this project included: 1) defining temporal and spatial trends of early life history (eggs) distribution, 2) describing the relationship between that distribution and the oceanography of PWS and, 3) analyzing the impact of that distribution on population structure and abundance 3-4 years later. The analysis was completed in three stages. The first exploratory stage consisted of plotting the herring egg and adult data in a two-dimensional array using the Geographic Information System (GIS). Synoptic oceanographic data from satellite and ground measurements were overlaid and ecological regions were identified using contouring and variograms. The second stage was to test for coherence in temporal trends

within and between regions using a time-series approach. For time series, the oceanographic and biological spatial data was plotted along a linear scale using space instead of time as the main axis. By taking this approach, we were able to analyze the spatial scale of autocorrelation and visualize a host of predictor variables and lags. We then prioritized the most likely collection of variables to use for the final analysis. Given non-normality and non-linearity, the final stage was to build General Additive Models (GAM) in a step-wise fashion to quantify the effect of the predictor variables (egg distribution, abundance, and oceanographic conditions) on the response variables (recruiting adult herring distribution and abundance) over space and time. The results from this study was presented at the Lowell Wakefield Fisheries Symposium entitled: Spatial Processes and Management of Fish Populations. This symposium was held Oct. 27-30, 1999 in Anchorage Alaska and was hosted by the Alaska Sea Grant program. We expect a publication to be completed over the winter.

For more details on this project contact

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Institute of Marine Science,  
P.O. Box 757220,  
Fairbanks, AK 99775;  
Ph: (907)474-5801,  
E-mail: ebrown@ims.uaf.edu*

### **Be a Part of A Success Story ! Contribute to STAGES !!**

STAGES is recognized as one of the best newsletters within AFS. The regional reviews are the foundation of STAGES, bringing you updates on ELH research. If you have not submitted anything for STAGES, or have not talked to your regional rep, please contact them. They will be delighted to hear from you.

Location

[http://www.eos.ubc.ca/afs\\_early](http://www.eos.ubc.ca/afs_early)

## Welcome to the **EARLY LIFE HISTORY SECTION**

of the American Fisheries Society

The purpose of these pages is to provide a rapid means to disseminate information to ELHS members and anyone looking for information about the ELHS section. As such, these pages will complement Stages, our official ELHS Newsletter.

### WHAT'S NEW?

**STAGES ONLINE:** The latest issue of Stages is now available. We are scanning old editions of the newsletter, and hope to have all past editions available soon

**UPDATED MEMBERSHIP LISTS NOW AVAILABLE:** The Early Life History Section membership lists have finally been updated (Many thanks to Tom Miller and Kathy Lang!). The lists are now available as downloadable Adobe pdf documents. Just follow the link to "Membership List".

**OTHER NEWS:** Also, if you know of any appropriate job advertisements or are looking to hire someone yourself (*i.e.* postdocs, grad students, field assistants, etc.) please pass the ads along to me and I'll post them on the Jobs/Opportunities page. Finally, if you have an ELH web-page you would like to see linked under the Other ELH Links section, please email me. We accept institutional listings, links to individual research labs, and personal web-pages for ELHS members.



Artwork by Bill Rugen

DIRECTORY

How to Join

ELHS Home

Membership List

About ELHS

Jobs/Opportunities

ELHS Newsletter

AFS Homepage

Meetings

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## Upcoming Meeting's

### International Congress on the Biology of Fish

Aberdeen, Scotland,  
July 23-26, 2000.



Information on this meeting is available at the following website: <http://www.fishbiologycongress.org>. The complete proceedings of the 1998 Congress are also available at the website, free for downloading by anyone (in Adobe Acrobat format). Information on how to get printed copies of previous proceedings is also provided.

Planning for the individual Symposia for the Aberdeen Fish Biology Congress are just starting. If you have suggestions, or would like to be involved in organizing a session, please let me know. For more information, please contact:

*Don D. MacKinlay*  
*Habitat & Enhancement Branch*  
*Fisheries & Oceans Canada*  
*555 West Hastings St.*  
*Vancouver BC V6B 5G3 CANADA*  
Phone: 604-666-3520  
Fax: 604-666-6894

### Wondering what's going on in the ELHS Regions ??

So are we! Our regional reps have been asking, begging, nay threatening, - but all to no avail. If you are in the ELHS and have not submitted anything to STAGES for the last 2 years, the section would love to hear what you are doing. You can contact any of the following people who would be only too happy to pass your news along:

**North Central Region:** David Culver, Department of Zoology, The Ohio State University, 1725 Neil Avenue, Columbus OH 43210-1220. (Ph: (614) 292-6995, Email:culver.3@osu.edu)

**Northeast Region:** Ben Letcher. S. O. Conte Anadromous Fish Research Center. 1 Migratory Way. Turner Falls, MA 01376. (Ph: (413) 863-8995. E-mail: bletcher@external.umass.edu)

**Western Region.** Dan Margulies, Inter-American Tropical Tuna Commission, Scripps Institute of Oceanography, 8604 La Jolla Shores Drive, La Jolla CA 92307. (Ph: (619) 546-7120, Fax: (619) 546-7133, Email:dmargulies@iattc.ucsd.edu.

**Southern Region:** Jon Hare, NOAA/NMFS, Beaufort Laboratory, 101 Pivers Island Road, Beaufort, NC 28516. (Ph: (919) 728-8732, Email:jhare@hatteras.bea.nmfs.gov)

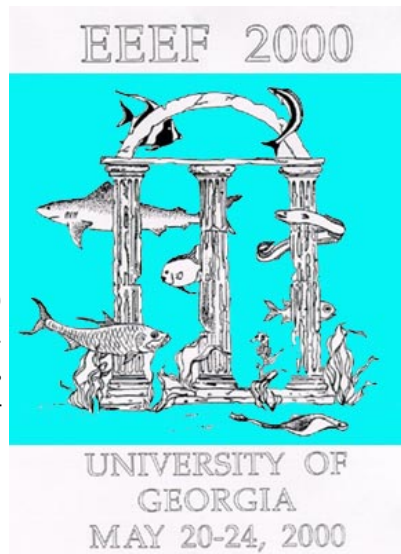
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## EEEF 2000

University of Georgia  
Athens, GA  
May 20-24, 2000.

EEEF (Ethology, Evolutionary [and conservation] ecology of fishes) is a biennial, international, informal gathering for fish folks. EEEF2000 will be our 12th meeting and will consist of symposia, contributed papers, posters, and good times (not the virus). Registration and housing costs will kept down to facilitate student attendance.



Symposia being planned include:

- ◆ Reproductive Biology and Conservation of Minnows (Steve Vives, svives@gasou.edu; Carol Johnston, CJohnsto@acesag.auburn.edu)
- ◆ Biology of self-fertilizing fishes (Dave Bechler, dbechler@grits.valdosta.peachnet.edu; Dave Noakes, dnoakes@uoguelph.ca; Will Davis, Davis.William@epamail.epa.gov, )
- ◆ Evolution of Parental Care in Fishes (Colette M. St. Mary, stmary@zoo.ufl.edu)
- ◆ Mechanistic approaches to habitat selection in fishes (Gary Grossman, grossman@arches.uga.edu; Todd Petty, jtpetty@wvu.edu)

Special emphasis and encouragement will be given to contributed papers dealing with fish conservation issues. An endowed student paper competition has been established in this areas. The Jan Smith Memorial Behavior and Conservation award will be given to an outstanding student presentation that shows the application of behavior to some aspect of fish conservation.

Contact Gene Helfman (helfman@sparc.ecology.uga.edu) to be placed on our mailing list; please forward this information to anyone who might be interested. Visit our website, <http://sparc.ecology.uga.edu/~helfman/eeef.html>, for all of the above plus updates.

## Affiliate Members!

We have completed a project to update our database of full and affiliate members to make contacting section members more efficient. This list will allow us to contact voting members at election time and to send out reminder notices to affiliate members in a more timely and efficient manner. Until now, we have had a policy of sending out copies of STAGES to all affiliate members in good standing as of December 1995. Now all affiliate members will be receiving dues reminder notices as their membership expires. We ask that you please submit your dues to Kathy Lang, the section treasurer. Kathy is continuing to find ways to ease payment for our foreign affiliates, until that time, checks and money orders only please. If we do not hear from you we will stop sending the newsletter!

## SECTION GOVERNANCE

### 1999 Business Meeting of AFS Early Life History Section

#### Call to Order

Meeting called to order by President Jeff Govoni at 18:15, April 8, 1999 during the 23<sup>rd</sup> Annual Larval Fish Conference at Duke Marine Laboratory, Beaufort, North Carolina.

#### Quorum

Seventeen full members in attendance; 34 total full and affiliate members and conference participants in attendance. Voting quorum (10% of ELHS voting membership) was not achieved. Meeting continued for informational purposes.

#### Secretary's Report

David Bengtson's (past ELHS Secretary) provided a detailed summary of 1998 Business Meeting in the January 1999 issue of *Stages*.

*(D. Secor reporting)*

#### Treasurer's Report

ELHS account balance through March 1999 was \$24,181.21, including \$6,286.49 in escrow for future publications. Income continues to be generated by membership dues and ELHS publications. Chief expenses during 1998-1999 included STAGES production and mailing costs (\$1,368.47), two student travel awards (\$600), and travel expenses for a member of the Ex-Comm to travel to the 1999 AFS Governance Board Meeting (\$248). The Sally Richardson Award Endowment which receives annual subsidies through the Larval Fish Conference Raffle and other donations now stands at \$8892.15.

The Treasurer also has duties in maintaining a database on membership. Recent trends in increased affiliate and international membership within the section were noted by Jeff Govoni. Tom Miller (STAGES Editor) reported that membership now comprises 310 full members and 88 affiliate members.

*Issue - International Membership: Mike Fahay*

expressed a desire to increase international membership within the section, a sentiment supported by other members at the meeting. Tom Miller reported that there are currently 14 affiliate international members. Payment of membership dues by colleagues abroad is made difficult and expensive due to exchange rate difficulties and the inability to charge membership to bank/credit cards. Tom Miller and Jeff Isely raised the issue of free membership to international colleagues. Jeff Govoni urged members to encourage international colleagues to attend Larval Fish Conferences and Art Kendall suggested broader international themes be developed for future Conferences to attract international participation and membership in ELHS.

*Failing quorum, issue tabled:* The issue of promoting international membership by changing dues requirements was tabled. Among members attending the business meeting, there was unanimous consent to encourage international membership by increasing publicity and relevance of the Larval Fish Conference to scientist abroad, and through direct contact among members and international affiliates (i.e. delivery of dues directly).

*(G. Govoni reporting for K. Lang)*

#### Committee Reports

New Standing Rules have been established and are published in the May 1998 issue of STAGES. Please note that there are new committees and committee categories.

#### Standing Committee Reports

##### 1.Nominations and Mail Ballot Committee (

Based upon fall election results, Art Kendall and Susan Sogard were congratulated for their successful candidacies as ELHS President-elect and Secretary-elect, respectively. This year elections will be held for Treasurer and Regional Representatives.



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Call for Nominations for Treasurer and Regional Representatives: Please contact J. Cowan if you wish to nominate yourself or others for these leadership positions within ELHS.

(J. Govoni, reporting for J. Cowan)

## **2. Time and Place Committee - Proposals in place through 2002**

Proposals have been received for meetings in 2000 through 2002. Jim Cowan (University of S. Alabama) has offered to host the 2000 Larval Fish Conference in Alabama at Dauphin Island Sea Lab. In 2001, Mike Fahay (NMFS Sandy Hook Laboratory) has proposed a fall meeting in Red Bank, New Jersey. Howard Browman (Institute of Marine Research, Austevoll, Norway) provided a detailed prospectus for a Larval Fish Conference to be held in conjunction with the ICES Annual Conference in Bergen Norway in 2002. Several members supported the idea to promote international membership and interactions with ICES which has had an historic focus on early life history studies. This meeting would take place during the 3<sup>rd</sup> week in August 2002.

LFC Proposals Accepted: Based upon unanimous consent of members in attendance, President Jeff Govoni will formally approve requested proposals for 2000 - 2002 Larval Fish Conferences, and work with Howard Browman further in developing a joint ICES meeting in 2002.

(Jeff Govoni reporting)

## **Sessional Committee Reports**

### **3. Sally Richardson Award Committee**

The Sally Richardson Award Committee was elevated from ad hoc to Sessional Committee status in accordance with the significance ELHS members accord this award. Grace reported that a procedural document in evaluating student presentations at Larval Fish Conferences had been drafted during the past year.

(Grace Klein-McPhee, reporting)

### **4. Student Grant Committee**

In 1999, Rich McBride reported that ten inquiries had been made concerning travel grants to the '99

Larval Fish conference. Four full applications were received. This year, Tom Trnski (Australian Museum and University of Technology, Sydney) and Troy Tuckey (Grice Marine Lab, University of Charleston) were awarded grants.

(Rich McBride, reporting)

## **5. Conference and Symposium Publication Committee**

No publications had been pursued during the past two years. *Water Quality and the Early Life Stages of Fishes*, L. Fuiman (ed.), symposium proceedings from the 1992 Larval Fish Conference, continues to attract sales and generated income to ELHS in 1999. Lee Fuiman raised the issue of whether ELHS should continue supporting publication of Larval Fish Conference Proceedings.

New Book Proposal Lee Fuiman and Robert Werner submitted a proposal to ELHS to support publication of a text book on early life history studies. The proposed book entitled, *Concepts of Fisheries Sciences the Unique Contribution of Early Life History Studies*, would be a multi-authored text designed to supplement a course on fisheries science or fisheries biology. Members at the business meeting queried Lee Fuiman on options to fund the project. Funding possibilities depend upon choice of publisher. The relative merits of a commercial publisher, or publication through the American Fisheries Society or ELHS were discussed.

Book proposal endorsed: Membership at the meeting unanimously endorsed Lee Fuiman and Bob Werner's project. However, without a quorum and clear guidance on costs which ELHS might incur in producing the proposed text, the issue of financial support for the book was tabled. Members encouraged the proponents to approach AFS and other publishers to gauge publishers' interest level in producing the text.

(Lee Fuiman, reporting)

## **Ad Hoc Committees**

### **1. Life time achievement award**

Due to Jim Cowan's unavoidable absence, business related to the Life-time achievement award was tabled until the next business meeting.

(*Jim Cowan, chair - absent*)

### New Business

Tom Miller spoke on his efforts to produce a membership database, the purpose of which is to bill affiliate members accurately, follow up on lapsed membership and insure comprehensive and accurate mailings of STAGES. During the past year, over 1200 issues of Stages were published and sent out in December 1998, January 1999, and April 1999. After a Herculean stint as Newsletter Editor, Tom has indicated that he will retire this September.

**Contributions to TAFS:** David Conover has assumed Co- Editorship of *Transactions of the American Fisheries Society*. David Conover re-

quests that members of ELHS consider publishing in our parent society's flagship scientific journal. This request sent off a volley of other requests for ELHS manuscript contributions from Editors and Associate Editors of *Estuaries*, *Bulletin of Marine Science*, and *Reviews in Fish Biology and Fisheries*. Nice to be wanted!

### Adjournment

Tom Miller moved to adjourn. Business Meeting adjourned at 19:32.

These minutes are respectfully submitted by Dave Secor

Announcing  
the  
**24<sup>th</sup> Annual  
Larval Fish  
Conference**

to be held at

**Gulf Shores State Park,  
Gulf Shores, AL**

from

**Nov 5 - 10, 2000**

**1<sup>st</sup> Call for papers - Jan.  
2000**



**Gulf Shores  
Conference Center  
Alabama**

## MEETING REVIEWS

### 129th Annual Meeting of the American Fisheries Society

The AFS meeting in Charlotte this year had as its theme, "Integrating Fisheries Principles: From Mountains to Marine Habitats." As such, the meeting offered a wide diversity of talks. Yet, the ELHer had to work hard to find many talks involving early life history stages of fish. With the exception of one afternoon session of five contributed talks, talks of specific interest to ELHers were spread across many sessions and days. It would be nice to see the section hosting at least one focused session at every AFS meeting.

Four of the the five papers in the contributed session had a freshwater focus. Pine and Allen (University of Florida) used otolith microstructural analysis to examine mechanisms regulating survival of black crappie in a Florida lake. They reconstructed birthdate and growth rate frequencies by repeatedly sampling larval and juvenile crappie from the lake. They found an extended spawning period, and a pattern of positive covariation between inferred hatching date and growth rate. Later hatching fish grew faster. They speculate that these later hatching fish contributed more to recruitment to the adult population. Heyer, Miller, Rice and Binkowski (Univ. Maryland, North Carolina State, and Univ. Wisconsin) reported results of several experiments examining the influence of maternal effects on the survival and performance of Lake Michigan yellow perch. In an extensive set of experiments, Heyer et al. demonstrated that there were statistically significant differences among the offspring of 10 different mothers at hatching, and that these traits were related to phenotypic characteristics of the mothers. Subsequent experiments showed that these maternal effects persist through yolk absorption, have a statistically detectable effect to at least 32 days post hatch. In a related talk, Weis and Dettmers (Illinois Natural History Survey) demonstrated a link between zooplankton concentration and larval perch survival in laboratory experiments. An analysis of the historical time series of

zooplankton abundances in Lake Michigan showed changes in the zooplankton community composition and abundance of a similar magnitude to those that elicited significantly different patterns of larval survival in the laboratory. Weis and Dettmers speculated that changes in the larval prey field may have played a role in the recent declines observed in Lake Michigan yellow perch. Braaten and Guy (Kansas State Univ) presented results of a field study of the distribution of freshwater drum larvae in the Missouri River. Given knowledge of river discharges, and by aging individual larvae, Braaten and Guy could infer spawning location of the larvae collected. Their results indicate the importance of the unchannelized section of the Missouri River, particularly that section below several large impoundments, as spawning regions. These findings also point to the importance of upstream-downstream linkages in the ecology of fishes in large rivers. The final talk, by True et al. (Universidad Autonoma de Baja California), focused on an endangered sciaenid fish from the Gulf of California. True et al. provided the first descriptions of larval *Totoaba macdonaldi* based upon material raised from larvae produced by laboratory broodstock. The long term objectives of this study is to begin an enhancement program to attempt to restore this endangered species.

Although there was no other session devoted to ELH studies, there were certainly other ELH talks dotted throughout the conference. With apologies to those whose talks I missed, here is a brief summary of the talks I heard.

Two talks focused on the potential for larval releases to enhance fish stocks. Secor and Houde (Univ. Maryland) reported on the results of a large larval striped bass release program that was designed to explore the potential utility of stock enhancement efforts for estuarine species. Over three years, Secor and Houde released 31.7 million marked, hatchery reared larvae striped bass in two

tributaries to the Chesapeake Bay. In years of poor natural recruitment, the stocked fish accounted for 20-30% of overall YOY abundance, whereas in years of high natural recruitment, the released larvae accounted for < 5% of YOY abundances. Secor and Houde suggested that there was potential for such large scale releases to augment natural production. Jenkins et al. (South Carolina Department of Natural Resources) assessed a restoration effort for red drum, that involved release of juvenile fishes. Their results indicated contributions of approximately 20% annual to natural production, again suggesting the utility of such efforts.

Several talks involved presented information on the balance between rates of growth and mortality in young fishes. Carruthers, Roten and Miner (Bowling Green State University) examined the role of turbidity as a predation refuge for white crappies. They showed that the turbid environment afforded larval cohorts a lower rate of mortality, with little loss of growth. Hurst and Conover (SUNY-Stony Brook) looked at the energy budgets of overwintering striped bass in estuarine habitats. Hurst and Conover took an experimental approach that involved maintaining fish at a range of flow velocities at typical wintertime temperatures. Their results suggest that while consumption scaled to meet energy demands, fish do not appear to be trying to maximize their scope for activity, which would be the case at higher temperatures. The reasons for this discrepancy a topic for future research.

Two talks of interest to ELHers were given in a session on "Models as Management Tools." Ram Myers (Dalhousie University) outlined his research program – that of (1) collecting all the data in the world pertaining to important issues related to the regulation of fish population dynamics, and (2) analyzing it. In what has become an ongoing project, Myers continues to amass a vast number of stock- recruitment relationships. In comparing freshwater and marine species, Meyers reported a fundamental difference in the spatial scale at which stock-recruitment relationships covary between marine and freshwater species, but little differences in other life history traits important to recruitment. Jones and Thorrold (Old Dominion Univ) presented results of their work on otolith microchemistry. They emphasized that the chemistry of the otolith varies with the composition of the seawater in which the fish live. As the composition of seawater varies latitudinally, and with water mass, otolith microchemistry becomes a natural tag for all fish. This allows a range of spatial models, that to date, have not been possible to apply to understand recruitment processes to be brought to bear in fisheries oceanography.

*Tom Miller*

*P.S. Note to future meeting organizers - put the beer with the posters, not with the trade exhibits!*

Preliminary Announcement  
for the

## **25<sup>th</sup> Annual Larval Fish Conference**

Hosted by the NMFS at Howard Laboratory, Sandy Hook, New Jersey, USA

Dates: August 9 - 14, 2001 (tentative)

Theme: Transitions in the early life history of fishes - "It's about change"

Contact: [lfc2001@sh.nmfs.gov](mailto:lfc2001@sh.nmfs.gov)

September 1999

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## Closing Comments

As I hand over my responsibilities as editor to Perce Powell, I thought it appropriate that I reflect on five years as editor. The editorship of the ELHS newsletter is an important job. Together with the annual Larval Fish Conferences, the newsletter provides the section with its identity. For many members, who can not attend the annual conference, the newsletter is the only way in which they find out what is going on in the section, and what their colleagues around North America, and now around the world, are doing. Consequently, it is important that the newsletter comes out regularly, and is as timely as possible.

While as editor I put the final product together, the work I do could not be completed without the efforts of the regional representatives. These people are the ones who should have been hounding you for information for the newsletter. I have had the pleasure to work with several people who were simply outstanding at their jobs. The following never failed to provide information during their tenure's as regional reps.

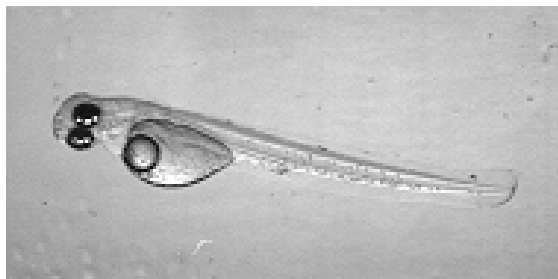
Nancy Auer  
Chris Chambers  
Jeff Marliave  
Jon Hare  
Dan Margulies

I thank them all for their efforts. You all made my job easier. I also want to thank Iain Suthers and Arild Folkvord who tried valiantly to provide information for STAGES from around the world. It is not easy to pry information out of the hands of section members, it is even harder to get the information out of the hands of non-members. These gents did an exceptional job.

The new editor will require similarly dedicated people to assist him. The current regional representatives have been serving for two terms. It is time that they be allowed to stand aside. The section will need new people to stand forward to do these important jobs. If you are interested in being a regional rep, please contact the section president, Jeff Govoni.

Finally, the newsletter could not be published with out the work and enthusiasm of you its members. I have been consistently amazed and impressed by the creativity, ingenuity and dedication that all of you show in pushing our understanding of the phylogeny, morphology, ecology and behavior of early life stages of fishes forward

It has been a pleasure working for the section as editor. I know that Perce Powell will do an outstanding job as the new editor of STAGES. Perce takes the reins as of January 1, 2000. He will be waiting to hear from each of you.

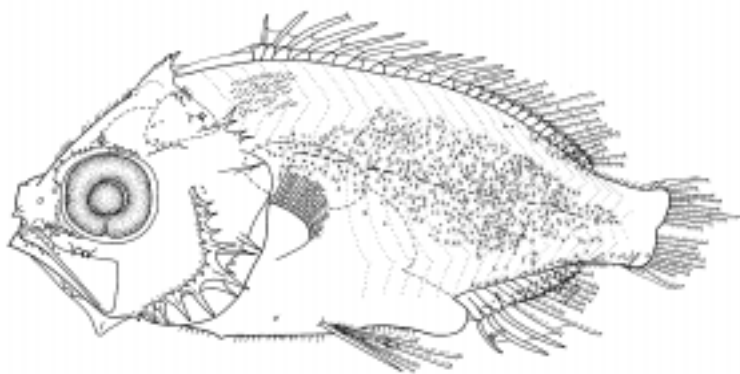


# The Larvae of Indo-Pacific Coastal Fishes

*An Identification Guide to Marine Fish Larvae*

**Edited by Jeffrey M. Leis & Brooke M. Carson-Ewart**

The second volume in the Fauna Malesiana book series gives an extensive overview of the larval development of 124 families of fishes, many of them of importance for both fishery and from ecological perspectives. The families that are described originate from the center of global marine biodiversity: the tropical Indo-Pacific Oceans, a region rich with coral reefs, as well as mangrove, estuarine, and coastal shelf habitats. The identification guide not only documents the ontogeny of these fishes but also provides the means to identify these extraordinarily diverse larvae to the level of family. The book offers a wealth of instructive and detailed figures and illustrations (219 plates, each consisting of approximately 4 figures) for enabling the identification of these families and their larval specialization.



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- Collection Methods
- Identification Methods
- How to Identify Fish Larvae
- Terminology of Developmental Stages
- Glossary
- Description of Larvae of 124 Families of Fishes
- Literature
- Index

## Contents:

**Jeffrey Martin Leis** is Principal Research Scientist at the Australian Museum in Sydney.

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**Brooke Malia Carson-Ewart** is Technical Officer at the Australian Museum in Sydney

September 1999

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## DATES TO REMEMBER

November 30 - December 1, 1999	First Biennial Meeting on the Biology of Tautog and Cunner	Mystic, CT
May 20-24, 2000	Ethology, and Evolutionary Ecology of Fishes:	Athens, GA
June 24 - 28, 2000	4th Larval Biology Meeting ( <a href="http://www.biology.ucsc.edu/larval2000">www.biology.ucsc.edu/larval2000</a> )	Santa Cruz, CA
Nov 5- 10, 2000	24th Annual Larval Fish Conference (call for papers - January 2000)	Gulf Shores, AL
Aug 9 -14, 2001	25th Annual Larval Fish Conference	Sandy Hook, NJ

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