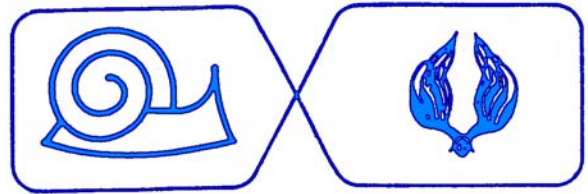


ISIR Newsletter

Spring 2009

(or Autumn if you are in the S. hemisphere)

Editors: A. Hodgson & H.J. Ferenz



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Editorial Message

In this letter we celebrate the 80th birthday of Franz Engelmann, highlight invertebrate reproductive research at Newcastle University, remind you about a new logo for the society and the 2010 conference. We are always on the look out for information so please send it to either Hans Ferenz (hans.ferenz@zoologie.uni-halle.de) or Alan Hodgson (A.Hodgson@ru.ac.za). Do not be shy – send us information about you and your research. The next newsletter will appear in about October.

From the IRD Editors

Those who submitted manuscripts to IRD after the Panama conference will be pleased to see that the Volume containing their papers, Volume 52 (1/2) was published recently (volume contents are listed at the end of the NEWSLETTER). Volumes 51 (issue 3) and 52 (issue 3) will appear shortly.

As members, please consider IRD for your manuscripts. We need good papers to raise the impact of the journal.

The Current ISIR Committee

President: **Rachel Collin** (STRI, Panama)
Vice-Presidents: **Matt Bentley** (Newcastle University, U.K.)
Amir Sagi (Ben Gurion University of the Negev, Israel)
Midori Matsumoto (Keio University, Japan)
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Journal Editors: **Hans Laufer** (University of Connecticut, USA), Matt Bentley, Alan Hodgson
Conference Organiser: **Frantisek Sehnal** (Academy of Science, Czech Republic)

Regional Representatives: M. Krishnan (India) krish14156@yahoo.com; M. Byrne (Australia & New Zealand) mbyrne@anatomy.usyd.edu.au; P. Swiderski (Poland and Eastern Europe) z.swider@twarda.pan.pl; R. Kaufman (Canada & North America) reuben.kaufman@ualberta.ca; M. Thiel (Chile & South America) thiel@ucn.cl; V. Zupo (Italy and Mediterranean) vzupo@szn.it; C. Westley (Australia) Chantal.westley@flinders.edu.au; M. Erkan (Turkey) merkan@istanbul.edu.tr

(Note: anyone wishing to act as a regional representative should contact Alan Hodgson (A.Hodgson@ru.ac.za))

Financial Matters

ISIR Scholarships

Due to the good financial situation of our society it will be possible to make several scholarships available to student members and postdocs to attend the ISIR Conference 2010 in Prague. Please encourage your best young researchers of your team to join this competition. Details will be communicated in our next newsletter.

For many members the triennial ISIR membership expired by now. You will be reminded by the treasurer if your membership payment is still open. The membership fee has not been increased. In fact it got much cheaper for those paying with Euro.

If your address has changed please inform the treasurer as quickly as possible (hans.ferenz@zoologie.uni-halle.de).

New Society Logo - Competition

In the last newsletter we called for ideas for a new logo for the society, a logo that would better reflect the society as a whole. Unfortunately to date we have not received any proposals. Nevertheless the committee still hope to deal with this issue and it has been decided that such a decision will be made at the general society meeting in Prague. Anyone with an idea for a new logo is invited to bring their design to Prague where it will be displayed. The winner will be selected by the general assembly in Prague.

ISIRD Congress 2010

The organization of our next congress is well on the way. Suggestions for workshops etc. should be sent committee members. Comprehensive details on the Prague congress will published in our next newsletter. Please check our homepage for news on the ISIRD Congress 2010.



ISIRD Congress 2010, August 16-20

"Invertebrate reproduction and development in the age of genetically modified organisms"

Organized by Biology Centre, Academy of Sciences of the Czech Republic
(<http://www.bc.cas.cz>)
Prague, Congress Centre Krystal

- Volunteers for symposia organization are welcome. Symposia convenors are expected to recruit at least 5 active participants, i.e. either speakers or poster presenters.
- Preference will be given to topics related to the general theme, i.e. some relationship to GMO. Interested colleagues can write directly to Frantisek.Sehnal@bc.cas.cz.
- Although the conference has a theme, there will be an opportunity to present work on all spheres of invertebrate reproduction and development.
- Papers presented at the conference will be published in *Invertebrate Reproduction and Development* (subject to peer review). Details will be announced closer to the conference.

Preliminary venue: August 16: registration & reception

Aug. 17: lectures 8:00 - 16:00, posters with beer 18:00 - 22:00

Aug. 18: lectures 8:00 - 13:00; posters 14:00 - 16:00

Aug. 19: lectures 8:00 - 13:00; fare-well party 20:00 - 22:00

Aug. 20: lectures 8:00 - 13:00



Job Announcements

This time we got no information on jobs available in labs of our members. If you are looking for a new coworker or for a new position please send us an email. Your request can also quickly be distributed with our ISIR-Telegram.

Jubilee

Juvenile Hormone Keeps Franz Engelmann Young



At Dec 19th, 2008, Franz Engelmann, Professor Emeritus at UCLA, celebrated his 80th birthday. Celebrated? Probably his wife Jarka, also an insect physiologist, had difficulties to prevent Franz from biking to his UCLA office for research business as usual.

Franz started his career as insect physiologist with Martin Luescher in Bern, Switzerland, and got his PhD there in 1957. 1958-1960 followed a postdoctoral fellowship with Berta Scharrer, New York. He returned to Germany 1960-1963 as assistant at the University of Mainz. 1963 Franz moved to California and became professor at UCLA. 1969 he published his famous book *Physiology of Insect Reproduction* which became a milestone and reference book for insect physiologists for a long time (and still is). Most of his studies Franz performed with the cockroach *Leucophaea maderae*. He recently described his research interests as follows: "As a physiologist and developmental biologist my primary interests are in the elucidation of regulation of developmental and physiological events. In this sense I am interested, for example, in how environmental cues are mediated by hormones and translated into the functioning of organ systems and whole animals. For many years, my research efforts were concentrated on juvenile hormone (JH) controlled vitellogenesis in insects as well as induction of digestive enzymes by food intake. My research approach to questions on regulated vitellogenesis ranged from aspects of control of the corpora allata (the source for JH) to the molecular events involved in



JH controlled vitellogenin synthesis , the major yolk protein precursor. We were successful in the isolation and identification of the subunits of vitellogenin in a cockroach species, and we also clarified how the mature molecule is generated by posttranslational processing. We were, furthermore, successful in the physiological characterization of the JH receptor involved in the induction of transcription of the vitellogenin mRNA. The physico-chemical properties of this receptor are being identified. In all of the research in insect and invertebrate endocrinology my interest lies in the complexity of regulations and not only in the single specific event. An example of such a complexity is provided by the figure given, illustrating the pleiotropic action of one hormone, the juvenile hormone, in vitellogenesis of insects."

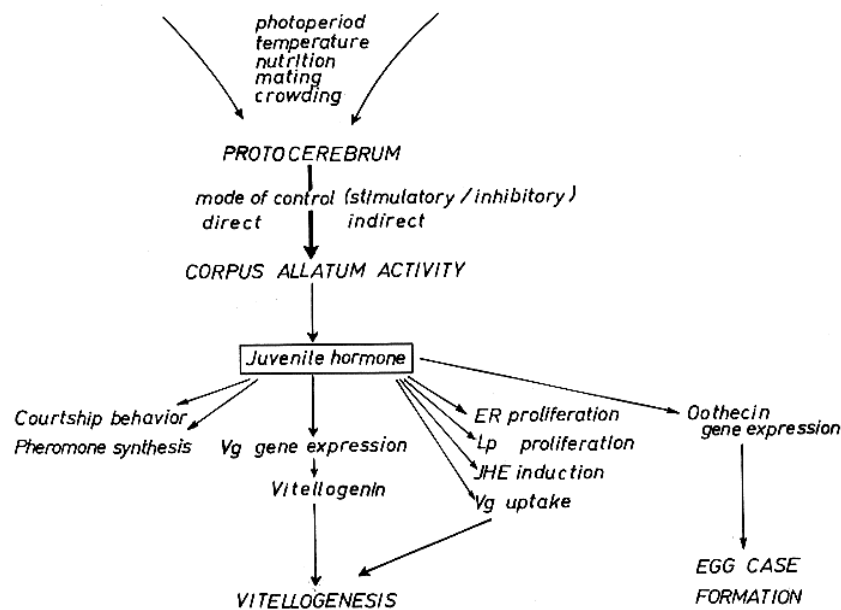


Fig.1 The pleiotropic role of JH

1979 Franz received the prestigious German Alexander von Humboldt Award to stay with Prof. Emmerich in Darmstadt for a year. Is that all? Certainly not! There is another Franz: Franz, the expert, dealer and collector of modern graphic art. Over many years Franz accumulated detailed knowledge on expressionism (a book about *Forgotten Expressionists* is in preparation – a collection of data and details gathered with passion, patience and expertise). No less he loves colourful high-quality contemporary modern art. I learned much from him, about hormones and Hundertwasser, about eggs and expressionists, about vitellogenesis and the wish to find real answers. Probably he will interrupt me here by saying that before finding answers you have to ask the right questions.

If you have questions here is his email: fengelma@ucla.edu

Selected Publications

Engelmann, F and Mala, J.. 2005. The cockroach *Leucophaea maderae* needs more than juvenile hormone, vitellogenin and reserves to make a yolky egg J. *Insect Physiology* 51: 465-472 .

Engelmann, F. 2003. Juvenile hormone action in insect reproduction *Encyclopedia of Hormones*, Academic Press 536-539 .

Engelmann, F. 2002. Ecdysteroids, juvenile hormone and vitellogenesis in the cockroach *Leucophaea maderae* Journal of Insect Science 2(20): .

Engelmann, F. and Mala, J.. 2000. The interactions between juvenile hormone, lipophorin, vitellogenin, and JH esterases in two cockroach species Insect Biochem. Mol. Biol 30: 793-803 .

Engelmann, F. 1999. Reproduction in insects Ecological Entomology' Eds C.B. Huffaker and A.P. Gutierrez 2nd Edition: 123-158 .

Don-Wheeler, G., and Engelmann, F. 1997. The biosynthesis and processing of vitellogenin in the fat bodies of females and males of the cockroach *Leucophaea maderae* Insect Biochem. Molec. Biol 27: 901-918 .

Engelmann, F.. 1995. The juvenile hormone receptor of the cockroach *Leucophaea maderae* Insect Biochem. Molec. Biol 25: 721-726 .

Engelmann, F.. 1994. Invertebrates: Hormone-regulated gonadal activity Perspectives in Comparative Endocrinology. Eds K.D. Davey, R.E. Peter and S.S. Tobe, National Research Council of Canada 36-40 .

Don-Wheeler, G., and Engelmann, F.. 1991. The female-and male-produced vitellogenin of *Leucophaea maderae* J. Insect Physiol 37: 869-882 .

Engelmann, F.. 1990. Hormonal control of Arthropod reproduction , Wiley-Liss 357-365 .

Hans J. Ferenz

Obituary

Albert R. Mead passed away last month (March 13, 2009) at the age of 93. *Achatina*, a genus of giant African land snail, was the life's study of Albert R. Mead. For more than 60 years, he was the world's leading authority on the exotic and destructive creature.

Though Mead, a professor at the University of Arizona, USA for half a century, took his work – in the field and in the classroom – seriously, he had a sense of humor about it, referring to himself as a "traveling snailman."

More details about this remarkable colleague you will find here:

<http://www.azstarnet.com/metro/287878.php>

Spotlight on Research

Invertebrate Reproduction Research at Newcastle-upon-Tyne, U.K.

Newcastle University (in North-East England, UK) has a history of research into aspects of reproduction of invertebrates, and most notably of polychaete annelids, dating back about half a century. This predates the ISIRD and researchers at Newcastle have been active members of the Society since its inception. The arrival of Professor Bob Clark and David Golding in the 1960s was augmented by the addition of Peter Olive to the team, first as a PhD student and subsequently as a member of staff. This short article on Invertebrate Reproduction at Newcastle is timely, as this year will mark the retirement of Professor Peter Olive from the University, although I have more than a suspicion that his ac-

tive connections with current research in the School of Marine Science & Technology will not be severed.

Bob Clark and David Golding were pioneers in developing our understanding of neurosecretion and endocrinology of the polychaete annelids, and Golding's paper on latent capacities of gametogenic cycling in nereids in *PNAS* (1994 91:11777-11781) marked the peak of his career. Olive and Matt Bentley (as Olive's first PhD student) along with Peter Garwood, amongst others continued the tradition of polychaete research probing our understanding of how environmental factors, hormones and pheromones contribute to the seasonal, synchronized timing of reproduction in polychaetes. In recent years, invertebrate reproduction research has moved on in the department to focus on a wider range of organisms and problems, some of a simply inquisitive nature but others are much more applied. This has resulted in part from the current funding environment but also because of the recent recruitment of a number of researchers with complementary interests.

From about the time of the 'in-between' ISIR meeting held in Newcastle in 1979, Peter Olive developed interests in aquaculture, focusing initially on the sea angling bait market but latterly breeding worms as specialist feed for shrimp aquaculture. As part of the R&D for this commercialization, it became more important to understand how to manipulate reproduction. Gordon Watson (who is now at Portsmouth, UK), Kim Last (now at SAMS, Oban, UK; http://www.sams.ac.uk/research/sams-scientific-staff/Kim_Last/) and Ceri Lewis (now Exeter UK) contributed significantly to this enterprise, working with both Peter Olive and Matt Bentley, although the focus of their interest was on understanding the fundamental rather than applied aspects of polychaete reproduction. Almost all of this research was funded by NERC, including the Environmental Genomics Programme. Collaboration between these scientists and researchers at Newcastle continues. To bring things more up to date, the team currently includes Matt Bentley (<http://www.ncl.ac.uk/marine/staff/profile/m.g.bentley>) and Tony Clare (both Tony and Matt worked at Newcastle worked together as post-docs in Newcastle before moving away; Tony to Duke and then the MBA, and Matt to Lille and then St Andrews, both returning to Newcastle in 1999.), and Peter Olive. Gary Caldwell (<http://www.ncl.ac.uk/marine/staff/profile/gary.caldwell>) a former PhD student of Matt & Peter has joined the team as a lecturer in Applied Marine Ecology and Ben Wigham (<http://www.ncl.ac.uk/marine/staff/profile/ben.wigham>) as a lecturer in Marine Biology.

The research interests of these staff are complementary. Tony has a substantial research group working on control of barnacle settlement (<http://www.ncl.ac.uk/barnacles>) and the development of novel antifouling compounds. Matt has continuing interests in the control of timing of reproduction in marine invertebrates and on reproduction of invasive aquatic species. Gary has interests in biotoxins and bioactive compounds from algae (some of which impact on invertebrate reproduction and is an interest shared with Matt). Gary also works on biofuel development from algae. Ben has interests that focus on the deep sea including effects of pressure on fertilization of deep-sea marine invertebrates. Collaborative research between these researchers is through joint research applications, joint publications and joint supervision of PhD students. Recent successful completed PhDs include Rebecca Taylor (MGB/GSC) working on effects of algal toxins on copepod reproduction; Hannah Dunstan (MGB/GSC) on algal biotoxins on fish reproduction; Matthias Herborg (MGB/ASC) on mitten crab biology. Matt, Tony and Gary also have inter-

ests in effects of ocean acidification and share supervision of Susan Fitzer working on copepod reproduction.

We are pleased to report that more than half a century on, Invertebrate Reproduction research is alive and kicking at Newcastle and we would welcome collaboration with research groups in the UK and overseas.

Matt Bentley

New Members

We welcome the following new members to our Society:

Susan Fitzer

Marine Science and technology ; NewcastleUniversity, England

Helen Pagett

Newcastle upon Tyne, England

Dr. A. C. Suzuki

Department of Biology, Keio University School of Medicine
Yokohama, Japan

ISIRD-Web Site

To keep up to date with society activities, remember to visit our web site

(<http://www.isird.org>). Please feel free to submit information for the web site. Information should be submitted to either Joris Koene (joris.koene@falw.vu.nl) or Alan Hodgson (A.Hodgson@ru.ac.za)

Please feel free to submit information for the web site. Information should be submitted to either Joris Koene (joris.koene@falw.vu.nl) or Alan Hodgson (A.Hodgson@ru.ac.za)

The Lighter Side of Life

Did you see the news about the drunk starfish who was arrested because he could not stand on his own tube-feet?

(Well it is the best that we could do this month – perhaps you can do better; so please send us snippets that could be included here).

New Book

Sperm Biology: An Evolutionary Perspective edited by T.R. Birkhead, D.H. Hoskin & S. Pitnick. Academic Press (October 2008). ISBN-13: 978-0-12-372568-4
ISBN-10: 0-12-372568-2

Conference Diary

The following information has been sent by our members. If you know of more meetings and conferences in 2008 onwards please let us know. We will be happy to publish this in the next newsletter.

2009

7th International Conference on Molluscan Shellfish Safety, 14-19 June, Nantes, France.
www.icmss09.com

Southeast Asian Gateway Evolution, 14-17 Sept. 2009. Royal Holloway, University of London.
www.gl.rhul.ac.uk/searg/sage

The Crustacean Society Summer Meeting, 20-24, Sept., 2009. Tokyo, Japan. Conference website = [www.soc.nii.ac.jp/csj4/TCS FirstPage1.html](http://www.soc.nii.ac.jp/csj4/TCS%20FirstPage1.html)

16th Benelux Congress of Zoology, 28 to 30 October 2009, Wageningen (The Netherlands)
<http://www.beneluxcongress.com>

Annual meeting of the Netherlands Society for Behavioural Biology, 25 to 27 November 2009, Dalfsen (The Netherlands) <http://www.gedragbiologie.nl>

2010

American Microscopical Society, 2010 annual meeting, January 3-7, Seattle, USA. Contact Dr Kathy Coates (kcoates@transact.bm). <http://www.sicb.org/meetings>

World Malacology Congress, 18-24 July, Phuket, Thailand. Organised by Prof. S. Panha, somsak_panha@yahoo.com

12th ICIRD (see Newsletter)

9th larval biology symposium, 23-27 August, Wellington, New Zealand. Contact Nicole Phillips, Larval@vuw.ac.nz

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Aims and Scope

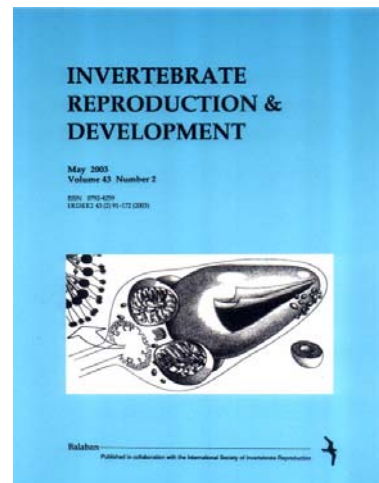
The journal publishes original papers and reviews reporting significant results obtained using new techniques with a wide approach to the sexual, reproductive and developmental (embryonic and postembryonic) biology of the Invertebrata. The journal publishes penetrating and provocative reviews, mini reviews, announcements, proceedings, reports of meetings and book reviews. New techniques and perspectives are particularly welcome. The journal also welcomes short reports on "hot" articles appearing in the current literature.

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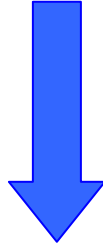
Benefits of membership

- **Reduced registration fees** at the International Congress (usually by more than the cost of the membership!) and at meetings of affiliated societies.
- **Discounted price** on the journal *Invertebrate Reproduction & Development*
- Society Newsletter
- Web site
- Competitive **travel grants** for graduate students and young professionals to attend the International Congress

For an international society the dues are very reasonable. The dues are paid on a 3-year basis, at only US \$ 20 per year, and even less for students. Members wishing to receive the journal *Invertebrate Reproduction & Development* can obtain it for a special discounted price. Furthermore, members can obtain a 3-year subscription to the journal at an even further discounted rate.

Membership Form

(for online application see ISIR homepage)



**INTERNATIONAL SOCIETY OF
INVERTEBRATE REPRODUCTION AND DEVELOPMENT**

To
Prof. Dr. H.-J. Ferenz
Treasurer ISIRD
Dept. Biology, Institute of Zoology
Martin-Luther University
D-06099 Halle
Germany

Membership Application

Name: **First Name:**

Title: **Birthday:**

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