

Division of Evolutionary Developmental Biology (DEDB) and Division of Developmental and Cell Biology (DDCB): 2004 Spring Newsletter

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Message from the Chair

Brian K. Hall

Dear Member of the DEDB and DDCB,

This is the first message to the newly amalgamated divisions of evolutionary developmental biology, developmental biology and cell biology. Fortunately, we have not been asked to construct a new acronym (DEDBDDCB, DEDBbut will continue with our individual identities and acronyms (DEDB, DDCB) as we work collectively to further our common the interests. On your behalf I extend our warmest thanks to Patricia Glas and Günter Wagner for all their efforts over the past year in bringing the two divisions into amalgamation.

If you check the minutes of the meetings of the two divisions held in New Orleans in January you will find the document of amalgamation as approved. This is not necessarily a permanent change (see the document) but gives us time to energize the two divisions in ways that will best serve us as member and the society as a whole.

The 2004 meeting was an excellent one with high attendance, excellent divisional symposia, first-rate posters and contributed talks, and the usual high level of interactions in the corridors – often accompanied by New Orleans jazz. The 2005 meeting should be equally strong and enjoyable:

Moya Smith from Kings College London has organized a symposium on "*Evolution and Development of the Vertebrate Dentition*" sponsored by our two amalgamated divisions along with the Divisions of Vertebrate Morphology and Evolutionary Biology.

Our graduate student and post-doctoral fellow representative Brad Davidson is organizing a symposium (*Movers and Shakers: A Young Investigators Symposium on Mesoderm Evolution*), which will consist of speakers nominated by grad. student and post. doc. members of the divisions. This is an innovative and welcome move. Mesoderm evolution is not the simple issue we older members once thought it to be – one germ layer, one evolutionary origin, one mode of formation. Check out Brad's message below.

It is not too early to begin thinking about symposia for January 2006. The deadline has been September in the past, so start thinking now. Symposia that integrate activities of the two divisions would be especially appropriate. And it is not too early to begin to think about graduate student-post doc-sponsored symposia for 2007 and beyond; participate while you are still a graduate student or post doc.

You will find information on candidates nominated for the positions of joint divisional program officer, secretary, and graduate student–post doctoral fellow representative. Don't forget to exercise your franchise.

We retain our association with the two journals *Evolution & Development* and the *Journal of Experimental Zoology Part B. Molecular and Developmental Evolution* and encourage you to subscribe and submit. Papers from the Kowalevsky symposium, sponsored by DEDB and held at the Toronto meeting are published in the January 2004 issue of *JEZ (MDE)*, volume 302B, issue #1. Our thanks to Manfred Laubichler and Günter Wagner for organizing the symposium and for orchestrating publication.

Message from the Program Officer

Eduardo Rosa–Molinar

¡Saludos from Puerto Rico! For the 2004 Society for Integrative and Comparative Biology (SICB) Annual Meeting in New Orleans, Louisiana members submitted 1115 abstracts, almost 400 more than last year! The attendance was approximately 1550. There were also an incredible number of students at this year's meeting. The breakdown is shown below:

- A. Development: *DDCB and *DEDB; 80 abstracts
- B. Ecology and Behavior: *DAB and *DEE; 120 abstracts
- C. Environmental Biology: *DCE, DEE, DSEB and *DCPB; 69 abstracts
- D. Evolution: *DSEB, DEDB, *DVM, DEE; 166 abstracts
- E. Integrative and Comparative Issues: *DIZ and *DNB; 21 abstracts
- F. Morphology: DVM and DIZ; 200 abstracts
- G. Physiology and Behavior: DCPB; 167 abstracts
- H. Regulatory Biology: DCE, DCPB, DNB; 106 abstracts
- I. Mini–symposia: 14 abstracts
- J. Symposia: 172 abstracts

***DAB** – Division of Animal Behavior; **DCE** – Division of Comparative Endocrinology; **DCPB** – Division of Comparative Physiology & Biochemistry; **DDCB** – Division of Developmental & Cell Biology; **DEDB** – Division of Evolutionary & Developmental Biology; **DEE** – Division of Ecology & Evolution; **DIZ** – Division of Invertebrate Zoology; **DNB** – Division of Neurobiology; **DSEB** – Division of Systematic & Evolutionary Biology; **DVM** – Division of Vertebrate Morphology

DEDB sponsored the *Morphological Innovations* symposium organized by Gerd B. Müller and Stuart A. Newman. This symposium was extremely well attended (standing room only) and generated discussion and debate as seen in the 13th of February 2004 issue of *Science* (vol. 303 page 951). DEDB also co–sponsored the *Model Systems for the Basal Metazoa* symposium (although not listed in the final program and abstracts book) organized by Neil Blackstone, Hans Bode, Cliff Cunningham, and Rob Steele. I want to thank Gerd, Stuart, Neil, Hans, Cliff, and Rob for doing an excellent job in organizing these symposia and the attendees for making the 2004 SICB annual meeting a success.

Seven students entered the best student talk and poster presentation competition. I thank all of the students and faculty mentors who entered and encouraged their students to enter the Best Student Paper Competition.

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Your participation was critical in making this meeting a success.

Although there were many excellent DEDB presentations, the Program Committee found two outstanding presentations.

Davenport, Ian, Robert. *A Novel Actin-Based Framework Aids in the Evolution of Extreme Egg Size in Chondrichthyan Fishes* (Collaborator: J. P. Wourms). Tanka, Kohtaro. *Morphogenesis of the Adult Legs in Manduca Sexta: Contribution of Different Larval Cell Populations*. (Collaborator: J. W. Truman). Congratulations to Ian and Kohtaro for their excellent work and many thanks to the judges for taking time out of their busy schedules to evaluate all of the student presentations. Ian's and Kohtaro's presentations exemplify the outstanding work being done by DEDB students, faculty mentors, and collaborators. Keep it goin'!

Blackwell
Publishing
Book Award

Ian and Kohtaro will receive a \$100.00 cash prize and a signed second edition of the book "*From DNA to Diversity*" by Sean Carroll, et al. In addition, they will receive a one-year online subscription to *Evolution and Development*. I would like to thank Ms. Nancy Whilton from Blackwell Publishing for supporting the book award. The check and book are in the mail!

The divisional program officers' meeting for the 2005 SICB annual meeting has been set for September 25th and 26th, 2004. If you have any comments and/or concerns regarding the meeting that you want me to bring up during the program officers meeting, please send them to me via e-mail (ed@hpcf.upr.edu).

The 2005 meeting will be held January 4–8, in San Diego, California. Start making plans. It promises to be an excellent meeting. DEDB and DDCB will be the primary sponsors for the:

- ◆ *Terminal Addition, Segmentation, and the Evolution of Metazoan Body Plan Regionalization* organized by Nigel Hughes, Ph.D. and David Jacobs, Ph.D. This symposium was selected as a society-wide symposium because of the breadth of the topic and the general interest that we expect it to generate. This symposium will be co-sponsored by DSEB, DIZ, and DVM
- ◆ *WormNet: Recent Advances in Annelid Systematics, Development, and Evolution* organized by Kenneth M. Halanych, Ph.D.. This symposium will be sponsored by DEDB, DIZ, and DSEB.
- ◆ *Evolution and Development of the Vertebrate Dentition* organized by Moya Meredith Smith, Ph.D.. This symposium will be sponsored by DEDB, DVM, DDCB, and DSEB.

Keep checking the SICB website (<http://www.sicb.org>) and reading the DEDB newsletter for updates regarding the 2005 meeting in San Diego.

It is time to begin planning new symposia for the 2006 SICB meeting. Brad Davidson, our post-doctoral representative, has an excellent proposal for a symposium. The symposium is entitled: "*Movers and Shakers: A Young Investigators Symposium on Mesoderm Evolution*". Please feel free to contact me if you would like to discuss ideas for other symposia for the

2006 annual meeting and beyond. An official call for 2006 symposia will be going out soon, and you will be able to find it on the SICB webpage (<http://www.sicb.org>). Symposia proposal(s) will be DUE sometime in August.

Finally, encourage your graduate students and colleagues to join SICB and the DEDB and DDCB and keep sending your original research papers and/or symposia to *Evolution and Development* (Blackwell Science, Inc.), *Molecular and Developmental Evolution* (Wiley-Liss, Inc), *American Naturalist* (University of Chicago Press) or to *Integrative and Comparative Biology* (Allen Press, Inc), SICB's own journal. These journals are all sponsored by SICB. I hope to see you all in San Diego.

¡Hasta Pronto!

Message from the Secretary

Frietson Galis

Dear members of the DEDB and DDCB, here are the minutes of the well-attended DEDB business meeting at the conference on Wednesday, 7 January 2004:

- Opening of the meeting by our Chair, Günter Wagner.
 - Vote on the proposal for association with DDCB (see below), including
 - ◆ Contract of association which can be cancelled by either division.
 - ◆ Joint officers, elected by the combined membership of DDCB and DEDB, with the exception of the chair (there will be two Chairs).
 - ◆ Joint program development
- The proposal for association with DDCB was accepted by those present at the meeting.
- Report of the program officer, Eduardo Rosa-Molinar (see his report in this newsletter).
 - Report of the secretary
 - ◆ Our website has been expanded this year. A member list has been added as well as information on upcoming meetings that we think are of interest to our members. Ruediger Birenheide has been particularly helpful in keeping our website updated. The executive committee has asked us to make the website more visually attractive. We shall work on this.
 - ◆ We have been asked to make an operation manual that lists the activities of officers. This should make the start of new officers easier and the functioning of the division more efficient.
 - ◆ When members want to send information to other members of the division, they can send an email to me at: galis@rulsfb.leidenuniv.nl
 - Report of the student/post-doc representative, Brad Davidson, (see his report in this newsletter)
 - Request by the Executive Committee on a proposal to reduce the lengths of the contributed talks from 20 minutes to 15 minutes. A large majority voted to keep the length at 20 minutes (this was also the outcome for the society at large).
 - Reminder by the Chair-elect Brian Hall that elections for secretary, program officer and student/post-doc representative are necessary this year, see below for biosketches of the candidates.
 - Announcement by James Hanken, president of the International Vertebrate Morphology Society, of a late abstract deadline of 1 March for the 7th meeting of the Society in Boca Raton Florida from 27 July to 1 August 2004.

- Request by Jonathan Losos to consider the American Naturalist as journal for developmental evolutionary papers, next to the specialist journals Molecular Developmental Evolution (Journal of Experimental Zoology, series B) and Evolution and Development that are supported by our society.
- Announcement of our first joint social with both the DDCB and DVM divisions immediately following the business meeting.

Memorandum of Understanding between the Division of Developmental and Cell Biology (DDCB) and the Division of Evolutionary Developmental Biology (DEDB) of the Society of Integrative and Comparative Biology (SICB)

Regarding: association of DDCB and DEDB

Date: Monday, July 21, 2003

With this memorandum the Division of Developmental and Cell Biology, hereafter called DDCB, and the Division of Evolutionary Developmental Biology, hereafter called DEDB, of the Society of Integrative and Comparative Biology, hereafter called SICB, confirm their decision to form an Association to perform the business and scientific program functions of a Division of SICB as detailed below.

[rationale: the problem to be solved is the lack of participation in DDCB and thus the idea is to consolidate the functions of the Divisions as much as possible.]

The Association shall continue as long as it is perceived by the membership in the interest of the participating parties, DDCB, DEDB and SICB. The Association may be dissolved unilaterally by a vote of one of the participating Divisions. The vote has to be a simple majority of those members of the Division participating in the vote.

[rationale: this makes sure that neither Division can be held hostage by this agreement.]

The Association shall be represented to SICB by the Chair of DEDB and a co-chair who is a primary or secondary member of DDCB. Other officer positions may be filled by members of either DEDB or DDCB. The chair of DEDB will be elected by the membership of DEDB and the co-chair by the membership of DDCB. All the other officers will be elected by the combined membership of DEDB and DDCB.

[rationale: to allow DDCB its continuing identity at least one officer has to be present to represent the interests of DDCB.]

For the duration of the Association the committee structure and business rules shall be those as explicated in the bylaws of DEDB.

[rationale: I am in the process of proposing changes to the DEDB bylaws so that the business rules become more effective and less baroque. The association of the Divisions shall not undermine the efficiency of the administrative rules. Democratic control will be guaranteed by a) the existence of a DDCB co-chair, b) the fact that the officers of the Association are elected by both divisions, and c) the ability of either Division to dissolve the association.]

The Association will be represented in the Program Committee by a Program Officer and Program Officer Elect elected by the combined membership of DDCB and DEDB. The program officer will be charged with also representing the interests of both Divisions, DDCB as well as DEDB, in the formulation of the scientific

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program.

[rationale: an independent program officer will not solve the problem of lack of leadership in DDCB, but we have to make the DEDB program officer responsible for the interests of DDCB.]

The Association will strive to nominate two representatives for the editorial board of the Journal of SICB representing the two Divisions. At most one of them can be a primary member of DDCB or DEDB.

[rationale: again this is to minimize the pressure to find active participants from DDCB and allows for flexibility, but at the same time ensure that DDCB will not be dominated by DEDB against their interests.]

The Association will request funding from SICB sufficient to support the Student Best Paper Awards of both Divisions, as well as independently sponsored symposia.

[rationale: the ultimate goal is to re-grow DDCB to full fighting strength and this is only possible with their own scientific program.]

This memorandum of understanding shall be made available to the membership of SICB for comment at the SICB website, the newsletter, and division e-mail, and will become effective after affirmative votes in each division of a simple majority of the members by electronic ballot or printable ballot four weeks after posting.

Message from the Student/Postdoc Representative

Brad Davidson

Call for Nominations!

Greetings fellow post-docs and grad-students. I hope you all enjoyed this year's meeting in New Orleans. I wanted to give a brief update on my attempts to organize an Invitational Symposium. On the advice of the Program Committee, I have restructured the symposium on a more traditional theme oriented-basis. In its newest incarnation, the symposium proposal for the Jan. 2006 meeting is titled:

Movers and Shakers: A Young Investigators Symposium on Mesoderm Evolution

This symposium will highlight innovative research on the evolutionary origins of mesoderm and on more general questions regarding mesoderm evolution and comparative development. Some of the speakers will be invited by the organizers while the remaining speakers will be chosen through a broad nomination/voting process by students and post-docs.

Please send me your nominations! Nominees should be grad-students, post-docs or newly hired professors whom you believe are conducting innovative research on mesoderm evolution or development.

Nominations can be made by anyone, members/non-members, students or professors. Please send me up to three nominees and a brief, one sentence, description of their research.

Speaker's travel, lodging and registration costs will be covered and their presented papers will be published either in the SICB journal or in *Evolution and Development*.

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I will be forwarding this email request to all DEDB members for circulation within relevant departments. If you do not receive a departmental email regarding this symposium, please take a minute to forward this message within your department.

Send your nominations to me at bandl@uclink.berkeley.edu

Thank you,
Brad Davidson

DEDB Candidates for Elections

Candidate for Program Officer

Eduardo Rosa–Molinar

Current Position: Associate Professor, Julio Garcia Diaz Center for Investigations in Biology, University of Puerto Rico–Rio Piedras, San Juan, Puerto Rico

Education: The University of Alabama, Tuscaloosa, Alabama. Natural Sciences; B.S., 1994 University of Nebraska Medical Center, Omaha, Nebraska. Medical Sciences Ph.D., 1997 Creighton University School of Medicine, Omaha, Nebraska. Cellular & Molecular Neurobiology, 1997–1999

Professional Experience: August, 2003–present: Associate Professor, Julio Garcia Diaz Center for Investigations in Biology, University of Puerto Rico–Rio Piedras, San Juan, Puerto Rico; August, 1999–July, 2003: Assistant Professor, Julio Garcia Diaz Center for Investigations in Biology, University of Puerto Rico, Rio Piedras Campus, San Juan, Puerto Rico; July, 1997–July, 1999: Post–Doctoral Research Fellow in Neuroscience, Department of Biomedical Sciences, Creighton University School of Medicine, Omaha, Nebraska

SICB Activities: Editorial Board (2003–present). *Journal of Integrative and Comparative Biology*, Society for Integrative and Comparative Biology; Symposium Co–Organizer (2003). *Alexander Kowalevsky Award Recipients Mini–Symposium*. Division of Evolutionary Developmental Biology, Society for Integrative and Comparative Biology; Program Committee (2003–present). Society for Integrative and Comparative Biology; Program Officer (2001–present). Division of Evolutionary Developmental Biology, Society for Integrative and Comparative Biology; Committee Member (2001–present). Committee on Diversity, Society for Integrative and Comparative Biology; Symposium Organizer (2001). *Starting from Fins: Parallelism in the Evolution of Limbs and Genitalia*. Division of Evolutionary Developmental Biology, Society for Integrative and Comparative Biology

Other Memberships: Society for Developmental Biology; Spanish Society of Developmental Biology; American Association of Anatomists; Society for Neuroscience; Johnston Black Johnston Club; Society for Behavioral Neuroendocrinology; Histochemical Society; Microscopy Society of America; Sigma Xi; American Association of the Advancement of Science

Research Interests: Comparative and Evolutionary Neuroembryology, Cellular and Developmental Neuroendocrinology, Development of Neuroanatomical Tract–Tracing Probes and Techniques for the

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Detection and Manipulation of Single Molecules for Correlative Light and Electron Microscopy and Cellular and Molecular Imaging.

Statement of Goals: If elected for a second term, my primary objective during my tenure as DEDB program officer would be to continue recruiting, working with, and encouraging developmental and evolutionary biologists to develop proposals, symposia, and obtain funding (i.e. money for international travel) to bring together more investigators within SICB and outside of SICB to continue working on "big picture questions" in the field of evolutionary developmental biology (Evo–Devo) as well as the latest most appropriate tools and theories in evolutionary and developmental biology. I will continue to strengthen ties with other divisions of SICB and with other organizations. I intend to recruit and encourage plant biologists to develop symposia. I also intend to continue to work to provide more recognition for the student presentation competition.

Candidate for Secretary

Frietson Galis

Current Position: Researcher, Institute of Biology, Leiden University, The Netherlands.

Education: Ph.D., Leiden University, The Netherlands.

Professional Experience: Postdoctoral research at Wageningen University, The Netherlands, 1991–97; Fulbright junior scholarship at Harvard University, 1993; Researcher, Leiden University, 1997—; Member of the Editorial Board of the *Journal of Experimental Zoology (Series B, Molecular Developmental Evolution)*, Zoology and Animal Biology; Member of the Scientific Program Committee, Sixth International Congress of Vertebrate Morphology (ICVM–6).

SICB Activities: SICB member since 1992. Secretary of the Division of Developmental and Evolutionary Biology (DEDB), 2002–present.

Other Memberships: International Society for Vertebrate Morphology.

Research Interests: My research interests focus on innovations and mechanisms that facilitate evolutionary morphological changes and on the constraining effect of internal selection on such changes (i.e. selection caused by characteristics of the developmental system). Recently my main focus has been on the conservation of the number of cervical vertebrae in mammals, the number of digits in tetrapods and the early organogenesis stage in vertebrates. In this project we are trying to understand the interplay between genetic architecture, developmental mechanisms and stabilizing selection that leads to the conservation of morphological traits. A second project is on the evolution of structural novelties in the pharyngeal jaw apparatus of cichlid fishes, and its role in adaptive radiation. A third project concerns the role of phenotypic plasticity and genetic assimilation in the process of adaptation and evolutionary change of cichlid fishes. My fourth project is on the intra-specific relationship between size and longevity in dogs. Furthermore I am writing a book on *Development, Functional Morphology and Evolution* for the University of California Press.

Statement of Goals: The DEDB division is an important meeting ground for researchers in evolutionary developmental biology. I have enjoyed being a secretary and would like to continue to help strengthen the division with the experience that I have gained in my first term. In particular I would like to improve communication among the members of the division, amongst others by continuing the improvement of our website in collaboration with the SICB webmaster Ruediger Birenheide.

Candidate for Student/Post–Doc Representative

Nathan Bird

Current Position: Graduate Student, Department of Biological Sciences, George Washington University

Education: 2003–Current Ph.D. student at GWU (Advisor: Dr. L. Patricia Hernandez); 2003 M.S. in Biology, University of South Dakota (Advisor: Dr. Paula Mabee); 1999 B.S. in Biology, University of South Dakota

Professional Experience: Robert Weintraub Research Fellowship, 2004–2005; Teaching Assistantship, 2003–2004, George Washington University; Teaching Assistantship, 2000–2003, University of South Dakota; co–PI, CoBRE NIH Pilot grant (with Dr. Paula Mabee and Patricia Crotwell at USD)

SICB Activities: Presented posters or talks at each of the last 3 SICB meetings; 2002 SICB Grant in Aid of Research Award; Also member of DVM.

Other Memberships: American Society of Ichthyologists and Herpetologists (ASIH), Society of Systematic Biologists (SSB), Society for Developmental Biology (SDB), and the American Association of Anatomists (AAA).

Research Interests: My dissertation research focuses on the development and evolution of morphological novelties and adaptations, particularly in the skeletal system of vertebrates. I am currently investigating the evolution and development of the Weberian apparatus of otophysan fishes, a possible key innovation that has allowed for the great radiation of this group. I am particularly interested in the genetic mechanisms underlying morphological change, and the evolutionary processes driving the change.

Statement of Goals: My primary goal as graduate student/post–doc representative for DEDB would be to continue the work done by our previous representatives, Brad Davidson and Patricia Hernandez. This includes a greater level of communication between students both within DEDB and in the society as a whole, increasing recruitment, and increasing student funding and award opportunities. In addition, I wish to strengthen the ties of the Society, and specifically DEDB, with other societies in order to increase the visibility of SICB in the scientific community, and to make DEDB the premiere arena for discussion of all things EvoDevo.