



Division of Vertebrate Morphology

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Message from the Chair

Mark Westneat

Greetings Vertebrate Morphologists! It's a pleasure to write to you this Spring as the Chicago winter begins to thaw, and we share a warm feeling that a new perspective on the value of science in general and biology in particular may be budding in our country. Yes, I'm an optimist, despite my retirement account, and I am going to ride this wave of joy inherited from our inspiring new pro-science administration as long as I possibly can. Indeed, that's exactly where my first news blurb as DVM Chair starts, with encouragement to engage in the complex process of promoting science in the US and abroad in as many diverse ways as you possibly can. Consider the many opportunities to go beyond the traditional pathways of teaching your courses, doing your research and publishing in the scientific literature. Seek out ways to engage the public with a fraction of your time, reach out to local schools, give public seminars, contribute to online venues for revealing the incredible discoveries that DVM members make each year. And, if you are so moved, take the additional step of getting involved in politics at some level. I know, perish the thought, but I had the chance to hear Al Gore speak at the AAAS meetings this year and he made a compelling case that scientists cannot afford to sit on the sidelines, but must engage at all levels, with a key need being scientific contributions to local and national government.

Consider a prime example of that- the decision by SICB to publicly reject New Orleans as the site for the 2011 SICB meeting due to the legislative approval in Louisiana of including creationism in the science classroom. A political statement that we will be discussing in the coming years and attempting to turn in the favor of science, rather than just abandoning the region, by engaging with the Louisiana educational system in various ways to articulate the reasons for our decision and help science teachers there with new materials to teach evolution. SICB members can do a lot in their communities to increase understanding of integrative and evolutionary biology, hopefully reducing the chances of future legislation that



hinders science education.

One more example of great activism and quick response! Associated with the economic stimulus package, NSF has received a major increase in funding and the SICB leadership was requested to develop a set of Grand Challenge questions in Integrative Biology as a tool for NSF to develop programs focused on the organism as central to understanding our world. We moved quickly on that, and our own Past Chair Kurt Schwenk helped to lead the effort in developing a compelling set of questions that have been forwarded to NSF for their consideration. You can read the Grand Challenges on the SICB website. Thanks Kurt! You are the Commander indeed, although no longer, so sit down now please.

And how about that Boston meeting? Fantastic meeting and big! There are way too many people to thank individually, but the DVM sessions and symposia were well attended and intellectually stimulating, all the organizers deserve a lot of credit, and particular thanks go to Jeff Walker for heroic efforts as our Program Officer and Gary Gillis as Secretary, keeping things running smoothly as usual.

Student Awards! Congratulations to all the students who gave talks and posters in the scientific competitions in Boston- the science presented by the students was superb. The student award winners in DVM were:

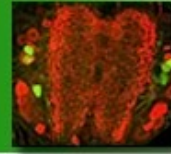
D. Dwight Davis Award for Best Student Paper in the Division of Vertebrate Morphology: **Natasha Taft** from the University of Massachusetts Amherst for her work on **A**

New Twist on Bending: Properties of the Pectoral Fin Rays of the Benthic Longhorn Sculpin.

Best Student Poster Award in the Division of Vertebrate Morphology: **Laura Macesic** of Florida Atlantic University for her research on **Flexural stiffness and composition of the propterygia of punting and non-punting batoids.**

Congratulations to you both, you are flapping and punting your way to the top of our profession.

In closing, a few notes and reminders. Please vote in the SICB and DVM elections this spring, and many thanks to Kiisa Nishikawa and John Bertram for their willingness to stand for election and serve as Chair of DVM starting in 2011. Also note that later this spring we will vote on a ballot item regarding the option to have a DVM fee to support society activities specific to DVM. Many of us think this option is a good thing, so please read Kurt's last SICB Newsletter (Fall 2008) for a detailed explanation of the purpose of this ballot measure. Please also plan to attend the meeting next year in Seattle, WA January 3-7, 2010 at the Seattle Sheraton Hotel and Washington State Convention and Trade Center. Seattle is a great place for a meeting, and I look forward to seeing you all there.



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Message from the Program Officer

Jeff Walker

As I write this while watching the falling snow and planning a nice backcountry tour of the local hills with my kids, I'm reminded that, through sheer good luck, or omniscient forecasting by the organizing committee, SICB Boston 2009 fell squarely into one of the few, narrow windows of snow-free weeks during this winter in New England. Which is good, because Boston 2009 was our biggest meeting to date, at least measured by submitted abstracts. Vertebrate Morphology continued its healthy contribution to many, many sessions and symposia, including Jerry Husak and Duncan Irschick's society-wide "Hormonal Regulation of Whole-Animal Performance," Matt McHenry and Sanjay Sane's "Sensory Biomechanics," Brook Swanson and Mason Dean's "Biomaterials," and Darrin Hulse and Suzy Renn's "Genomics and Vertebrate Adaptive Radiation: A Celebration of the First Cichlid Genome."

Symposium funding has recently changed. As of the 2009 Boston meeting, symposium speakers are reimbursed \$100 from SICB. But SICB Program Officer Ed Rosa-Molinari has worked hard to secure additional funds for Program Officer-Elect Brian Tsukimura to distribute to symposium organizers. SICB also pays for up to 10 pages and one color photo of all symposium contributions to Integrative and Comparative Biology. When writing proposals to fund a symposium, then, please consider budgeting costs above \$100/speaker, as well as costs for graduate stu-

dents and post-docs that might be in complimentary poster or oral sessions.

Start preparing for our 2010 meeting in Seattle Washington! While I have complete confidence that DVM will contribute heavily to the various morphology, systematics, evolution, and biomechanics sessions in Seattle, I am dismayed to report that we did not receive a single DVM-related symposium proposal! Please consider, then, organizing a symposium for 2011! The National Science Foundation is especially attracted to funding prospective and not retrospective symposia. So organize a symposium around a theme that allows speakers to outline the important, unanswered questions in a field and how the field should move to address these questions.

Finally, as emphasized by Chairman Mark, enjoy the renewal of an administration that respects science and take some time to engage the public in science. Have a productive spring and summer. I look forward to seeing the abstracts for Seattle.

Message from the Secretary

Gary Gillis

Nothing like a little snow and bitterly cold winds on the final day of the meeting to remind visitors of the treasures New England has in store for its year-round residents every winter (can you tell I live in Massachusetts??). I hope everyone enjoyed the Boston meeting and that you weren't too delayed



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getting out of town because of the iffy weather. I had a good time and want to emphasize how proud I always am of DVM at the meeting. You all are genuinely nice (and pretty smart too). I bring undergraduates to the conference every year and they never fail to end up enjoying it more than they expected, and this is largely due to our membership's generosity with their knowledge and time.



Natasha Taft, D. Dwight
Davis Award Winner

I hope and expect that we'll continue to be the sort of society that values "our young". This makes a nice segue to our student award winners this year:

The D. Dwight Davis award was given to Natasha Taft of the University of Massachusetts, Amherst, for her talk entitled "A New Twist on Bending: Properties of the Pectoral Fin Rays of the Benthic Longhorn Sculpin, *Myoxocephalus octodecimspinosus*." Natasha has been playing with sculpin and their fins for several years (I know because I'm on her Ph.D. thesis committee) and recently has used micro-CT scanning to reveal the unusual cross-sectional shape of their underlying hemitrichia. These shapes led her to make some functional predictions about the rays' resistance to bending proximally and flexibility distally (a great combination for allowing both weight-bearing and gripping during substrate contact). Furthermore, she also has made an intriguing paleontological connection. Her sculpin rays in cross section bear a striking resemblance to the fin ray morphology of the

extinct fossil lobe-finned fish *Eusthenopteron*. Such similarity is at least consistent with the hypothesis that *Eusthenopteron* used their pectoral fins to routinely interact with the substrate. Congratulations Natasha!



Laura Macesic, Best
Poster Award Winner

Our poster prize went to Laura Macesic of Florida Atlantic University whose work also "stressed" material properties of fin elements and was entitled "Flexural stiffness and composition of the propterygia of punting and non-punting batoids." Laura's work explored punting locomotion in skates and rays, which involves the use of pelvic fins in thrusting the animal along the substrate. The main skeletal element involved is the propterygium and Laura measured its flexural stiffness in a variety of batoids with varying degrees of punting ability. She showed that the flexural stiffness of the propterygium was greatest in true punters and least in non-punters. Interestingly, she also showed that the two punting species differed in how they achieved their high flexural stiffness: one went with E (stiff material) and the other with I (large second moment of area). Congratulations Laura!

And to all other students that were competing for an award, keep up the great work!

Researchers Database. Now, for those of you that already have established labs and/or research programs, allow me this opportunity to make another plea for entries to our Researcher Database. All you need to send me (gillis@mtholyoke.edu) is one or two pictures and a brief blurb about your research



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and before you know it you'll be highlighted on the SICB homepage and well on your way to fame and fortune (if you're not already there).

Below you will find our candidates for Chair-Elect. Thanks and good luck to Kiisa and John! Ballots for the election will be sent to you later in the spring.

If you weren't lucky enough to be there in person, consider how fortune has smiled down on you yet again, I've copied below the minutes from the DVM Business meeting in Boston.

DVM Business Meeting Minutes, 5 Jan 2009

-Kurt Schwenk welcomed all and introduced Matthias Starck who announced the upcoming ISVM meeting in Punta del Este, Uruguay, 26-31 July 2010. Those interested in proposing symposia should contact Matthias or Marvalee Wake.

-Adam Summers spoke next as a representative of NSF and alerted everyone to the "Life in Transition" Program, and in particular emphasized that DVM members think about submitting proposals if their work relates in any way to climate change issues.

-Jeff Walker (Program Officer) highlighted new information on symposium funding, specifically that the Society will provide \$100 per speaker. He also emphasized the Society's role in paying for articles and color figures (one per article) for published symposium

work in Integrative and Comparative Biology

-Gary Gillis (Secretary) drew attention to the Society's webpage and asked members to alert him if their work is getting national coverage as SICB would like to draw attention to this kind of thing on their homepage. He also asked everyone to think about submitting information and images to add to the researcher's database in DVM.

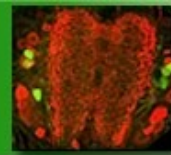
Kurt Schwenk's (Chair) Report:

-New officers-elect were welcomed (Lara Ferry-Graham and Rick Blob as Secretary and Program officer respectively.

-Northeast (University of Connecticut, 25 October 2008) and Southeast (Clemson University, 13 October 2008) regional meetings were a great success this year.

-Last year's D. Dwight Davis Award went to Andrew Farke of Stony Brook University for his talk entitled, *Evolution of the frontal sinuses in Bovidae*. The award for best poster presentation was split between Leah Brown-Wilusz, an undergraduate at the University of Connecticut, and Brad Chadwell of Wake Forest University. Leah's poster (with Tobias Landberg) was entitled, *Ontogenetic effects of hatching plasticity in spotted salamanders due to larval and egg predators*. Brad's poster (with B.W. Hunter and Miriam Ashley-Ross) was entitled, *When designing rays, function matters*.

-Thanks to this year's judging committee chaired by Margaret Rubega. Good news on the student prizes front: publisher Wiley is now sponsoring all SICB divisional student



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prizes. Prizes now include a certificate, cash and a subscription to a Wiley Journal (Journal of Morphology for our Division).

-Great news on the Division front: Ken Dial graciously donated \$3,000 to DVM to support various activities at our discretion. Thanks to Ken, and note that other donations are VERY welcome.

-We are considering implementing an additional \$5 fee for DVM members. This will be put into a pot of money (the same pot that Ken's money is in) that can be used to support various activities at the meeting and throughout the year (e.g. regional meetings). Two other divisions already do this and have had good success. This obviously deserves a vote of the membership, which we will have in the spring. At this point the vote will likely not even be to implement such a measure but to agree to give the DVM officers the freedom to implement the fee if they see it as necessary.

-Kurt and Mark discussed the NSF 'grand challenges in organismal biology' initiative and were very much involved in the document produced by SICB for NSF.

- Finally, with much ceremony, if little material goods, Kurt introduced Mark Westneat as the new chair of DVM. We hope Mark re-establishes the tradition of passing a literal torch (a gavel, scepter, necklace composed of wrasse vertebrae...) to our next chair in two years' time.

Proposed Bylaws Changes

The proposed changes are shown below.

Additions are shown in **bold underline**. Deletions are indicated with ~~strikethrough~~

Ballots will appear later in the spring.

Article IV. Membership

~~Any member of the Society for Integrative and Comparative Biology may, without payment of additional dues, become a member of this Division upon request to the Executive Secretary of the Society.~~ **Membership in the Division of Vertebrate Morphology is open to all classes of members of the SICB. It is acquired by registration with the SICB business office.**

Rationale: Correction (there is no Exec. Secretary of the Society) standardization of language across all divisions

Article V. Officers

The officers of the Division shall be a Chair, Chair-Elect, Program Officer and Secretary. Election to office shall be by a plurality vote of a mailed ballot sent to the entire membership at least 45 days before the annual meeting. **Elections of officers shall be held by both paper and appropriately secure electronic ballots.** A brief biography of each candidate shall be made available on the ballot. The outcome of the election will be announced at the annual meeting and in the first Newsletter following the annual meeting. **The term of office of all elected officers and appointed representatives shall begin at the end of the second SICB Execu-**



ive Committee meeting at the Annual Meeting in the year the term is to begin and will end at the adjournment of the second SICB Executive Committee meeting at the Annual Meeting in the year the term is to expire. The outcome of tied elections of divisional officers shall be resolved by majority vote of the officers of the Division of Vertebrate Morphology, who are specified in each division's by-laws. In the event of a tie vote by the officers of the division, the division Chair shall cast the deciding vote. In the circumstance where an elected officer is unable to complete his or her term of office, the following provisions are made: If the office of Secretary or Program Officer is vacated early, the Chair, in consultation with the Divisional Executive Committee, will appoint someone to serve until elections can be held to fill the position. If the office of Divisional Chair is vacant, the Divisional Executive Committee, in consultation with the SICB President, will appoint someone to be the interim Chair until an election is held.

Rationale: Language suggested by SICB to standardize terms, election procedures, and how to fill vacancies across all divisions

Article X. Executive Committee

The elected officers of the Division and the immediate Past-Chair shall *comprise* **constitute** the Executive Committee of the Division. Members of the Executive Committee shall confer informally on all matters of policy and

shall conduct the affairs of the Division.

Rationale: correct grammar.

Article XII. Finances

The expenses of the Division shall be paid from the treasury of the Society and in any year may not exceed the sum allotted to the Division. The Chair shall authorize all disbursements and coordinate financial procedures with the SICB Business Manager. **All members of the Division of Vertebrate Morphology will be assessed an annual fee in addition to SICB dues to be used to pay divisional expenses above and beyond those covered by the SICB budget allotment, including support for regional meetings, divisional functions at the SICB annual meeting, and other activities, as determined by the Chair in consultation with the Divisional Executive Committee. The amount of the assessment will be determined by the DVM Executive Committee and shall range from 0\$ to \$5 per member per year. Assessment funds will accrue across years, be managed through the management company, and disbursed with the authorization of the Chair, in consultation with the Divisional Executive Committee. The Chair shall coordinate disbursements and financial procedures with the Executive Director of the Society.**

Rationale: This addition is necessary for the division to continue support of regional meetings and to fund any other Divisional activities currently not possible within the limits and restrictions of the SICB budget. Unlike



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the SICB budget allotment, funds accrued through the assessment, along with donations to the Division, roll-over from year to year and will earn interest. If donations and other sources of income for the Division are sufficient, then it will not be necessary for the Executive Committee to impose the assessment. Importantly, the language DOES NOT REQUIRE a fee – it only allows the Executive Committee to impose one if, in their judgment, it is necessary for the financial health of the Division.

Article XIV. Amendments

These Bylaws may be amended at any annual meeting of the Division by a two-thirds vote of the members of the Division voting, provided that notice has been given to all members 60 days in advance, or by a two-thirds majority of votes *returned one month from the date of postmark of ballots mailed to the membership* **submitted by both paper and appropriately secure electronic ballots.**

Rationale: Language standardized across divisions and reflecting current use of electronic balloting.



Elections: Candidates for DVM Chair-Elect

Kiisa C. Nishikawa



Current Position: Regents' Professor, Department of Biological Sciences, Northern Arizona University

Education: 1980, B. S. Biology (Magna cum laude), State University of New York, Albany, NY; 1985, Ph. D. Zoology, University of North Carolina, Chapel Hill, NC

Professional Experience: 1985, Postdoctoral Fellow, Dept. of Anatomy, Dalhousie University, Nova Scotia, Canada; 1985-1987, Miller Fellow, Museum of Vertebrate Zoology, University of California, Berkeley, CA; 1987-1989, Assistant Professor, Dept. of Biological Sciences, University of Kentucky, Lexington, KY; 1989, Visiting Professor, University of Bremen, Germany; 1989-present, Faculty, Northern Arizona University; 1989, Visiting Professor, Studienstiftung des deutschen Volkes, Germany; 1997, Visiting Associate Professor, Dept. of Physiology, Univ. of Minnesota, Minneapolis, MN; 1998, Visiting Associate Professor, Department of Zoology, Duke University, Durham, NC; 2004-2005, ADVANCE Visiting Scholar, Department of Biology, Univ. of Washington, Seattle

SICB Activities: 1989, Judge, Best Student Paper Competition, Comparative Biochemistry & Physiology, American Society of Zoology (ASZ); 1990, Chair, Best Student Paper Committee, Division of Vertebrate Mor-

phology; 1992-1993, Member, Membership Committee; 1992-1994, Member, Program Committee, IVth International Congress of Vertebrate Morphology; 1995, Member, Best Student Paper Committee, Division of Vertebrate Morphology; 1995-1998, Secretary, Division of Neurobiology; 2002, Member, Nominating Committee, Division of Vertebrate Morphology

Other Memberships: International Society of Vertebrate Morphologists; International Society for Neuroethology; Society for Neuroscience (SN)

Research Interests: Neuromechanics; mechanisms of power amplification in ballistic movement; bioengineering; functional morphology of feeding in vertebrates; evolution of brain and behavior.

Goals Statement: I attended my first SICB (then ASZ) meeting in 1985, and my laboratory group, including undergraduates, graduate students and postdocs, has attended every annual meeting ever since. Over the years, SICB has been exceptionally supportive of young scientists, and I will make every effort to contribute to the continued success of the DVM, and SICB as a whole, in mentoring scientists at early stages in their careers. My goals as Chair of DVM would be: 1) to collaborate with other divisions (e.g., Biomechanics; Comparative Biochemistry and Physiology; Neurobiology) within the DVM to optimize programming at annual meetings; 2) to promote the central role of vertebrate morphology in contemporary interdisciplinary research through spon-



sorship of interdisciplinary symposia; and 3) to work with SICB to ensure continued support for DVM in terms of regional meetings, symposia and other functions.

John EA Bertram



Current Position: Professor, Cell Biology and Anatomy, Faculty of Medicine, University of Calgary

Education: 1981, BSc, Zoology, University of British Columbia; 1984, MSc, Biomechanics, University of British Columbia; 1988, PhD, Anatomy University of Chicago

Professional experience: 1988-1990, Postdoctoral Fellow, Biology, Dalhousie University; 1991-1992, Postdoctoral Fellow, Harvard Forest/Concord Field Station, Harvard University; 1992-1998, Assistant Professor, College of Veterinary Medicine, Cornell University; 1998-1999, Assistant Professor, Dept. of Sport and Exercise Sciences, Ithaca College; 1999-2004, Associate Professor, Nutrition, Food & Exercise Sciences, College of Human Sciences, Florida State University; 2004-present, Professor, Cell Biology and Anatomy, Faculty of Medicine, University of Calgary

SICB activities: 1982-present, DVM member; 1995, Organizer of Northeastern Regional DVM meeting at Cornell University; 1996, Symposium Co-organizer (with R. Marsh, Northeastern University), "Muscle

properties and organismal function: shifting paradigms," Albuquerque, NM; 1997, Chair, DVM Nominating Committee; 2004-2006, DVM Program Officer - Nominations Committee (Chair) SICB, Div. of Vertebrate Morphology; 2007, Nominee for inaugural Chair of Division of Comparative Biomechanics

Research interests: Quantitative analysis of form and function relationships in animals and plants.

Goals statement: I think this is a particularly important juncture in the long history of the Division of Vertebrate Morphology. With the recent development of the Divisions of Comparative Biomechanics and Evolutionary Developmental Biology, the Division of Vertebrate Morphology has seen the fruits of our members' hard work and enthusiasm; for the success of these new divisions owe a great deal to the fertile and encouraging ground they found previously within Vertebrate Morphology. However, it is now important for the Division to fully define itself within the new order of things. For my part, I think the Division represents the integrative nature of the Society, but it is critical that the role of the Division is clearly defined both internally within the Society and externally to the educational and research bodies our membership interacts with.