The Society for Integrative and Comparative Biology

SICB Newsletter

Fall 2012 Issue

Division of Phylogenetics and Comparative Biology

Contents

DPCB Officers & Representatives

Patrick O'Connor
Chair 2010-2013

Michael E. Alfaro
Chair-Elect 2012-2013

Todd Oakley
Secretary 2010-2013

Kerin Claeson
Secretary-Elect 2012-2013

Rachel Collin
Program Officer 2012-2015

Graham Slater
Student/Postdoctoral Affairs Committee Representative
2012-2015

Message from the Chair

*Patrick O'Connor, **Chair.DPCB@sicb.org***

The SICB Division of Phylogenetics and Comparative Biology (DPCB) is about to turn 1 year old as we convene for the annual conference in San Francisco in January of 2013. This represents my final Message from the Chair and it has been a honor to serve in this capacity, to see a number of initiatives move from 'interesting ideas' discussed amongst a small group of DPCB members to reality (see below), and to navigate the recent name change for the division. I would like to thank the other officers and key members of the division for their assistance and ability to bounce ideas off of for the past 3 years. Mike Alfaro will be taking over as division chair beginning in January 2013 and I would like to welcome Mike into this role. Luckily Mike has been very involved with the division in recent years (e.g., as the past program officer) and he is ideally situation to lead the division for the next few years.

Please join us for the DPCB business meeting in San Francisco in order to share your ideas and/or become more involved with divisional activities—there is room for your voice and we need novel perspectives as we move phylogenetics and comparative biology into the next decade. The exact date/time of the business meeting has yet to be finalized, so please check the SICB Annual Meeting 2013 website in the coming weeks. And finally, we welcome your participation as part of the best student paper judging activities at the annual meeting. You may either sign up during the on-line registration or by contacting Mike Alfaro directly.

As part of the ongoing effort to bring Recent and deep time perspectives together, many members of our division will be featured contributors for a symposium entitled 'Comparative Paleobiology—New Quantitative Approaches to the Study of Vertebrate Macroevolution' at the 2012 Annual Meeting of the Society of Vertebrate Paleontology to be held in Raleigh, NC in October. We hope this represents the first of many cross-society interactions and thank those members of the division for their efforts to bring this to fruition. Please stop by the division business meeting where we will update you on this and other initiatives.

Also, new (or updated!) entries for the DPCB Researcher Database (**http://www.sicb.org/divisions/DPCB/researchers.php3**) have dropped off over the past year. Consider contributing a profile so that we can promote the activities of the research-diverse membership in DPCB.

Have a great fall and see you in early 2013.

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Message from the Program Officer

*Rachel Collin, **DPO.DPCB@sicb.org***

In September the Program Committee met in San Francisco to organize the program for the 2013 meeting. It looks like it's going to be great! There are more abstracts than ever before and the symposia are going to be really dynamic and diverse. The venue, the Hilton San Francisco Union Square, is beautiful and well located near a number of restaurants. The **Notes from the Underground** is already available online and gives great tips about getting round SF and interesting places to eat and drink.

DPCB Comparative method in R clinic: This year DPCB will be offering a clinic for people needing help using R for phylogenetic or comparative analyses. People needing help will be able to bring datasets and work with our "doctors." This will take place during one evening of the meeting and there will be a sign-up sheet online. More information will be available soon or contact Graham Slater of UCLA for details.

A note about divisional socials: Since our division has an even representation of members that work on Vertebrates and Invertebrates our joint socials alternate between meeting with DIZ one year and with DVM the next year. This year we will combine with DVM for a coffee and desert social. The Program Officers would like the membership to know that in venues in popular cities like San Francisco and Seattle the cost for catering both at coffee breaks and socials is significantly higher than in smaller cities. For example coffee for receptions in San Francisco will be $100 a gallon. Think about those government scandals that are sometimes in the news about $10 bagels or $15 cookies. This is not far off the rates charged at some of the venues. This explains why sometimes socials provide what seem like mountains of food and other times the catering for the socials is quite inadequate. We hear a lot of comments and complaints about this and want the membership to understand the situation.

I'm looking forward to seeing you all in San Francisco.

Message from the Secretary

*Todd Oakley, **Secretary.DPCB@sicb.org***

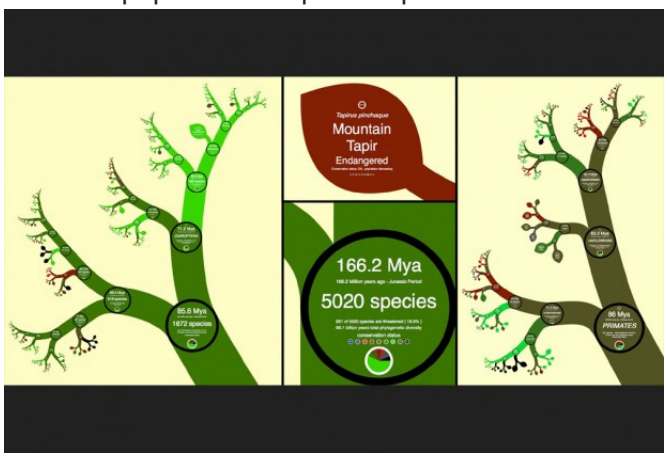
This is my final message as DPCB secretary. I've learned a lot about the division and SICB over the years, which has been very interesting to me. I am happy to have had the opportunity to contribute in some small way to furthering SICB, and to furthering phylogenetics within SICB. I am glad to have the capable Kerin Claeson take over for me. I am confident she will do an outstanding job.

I look forward to seeing everyone at SICB in San Francisco this winter. I will be co-organizing with Jeanne Serb a symposium on adding genomics to integrative vision research.

DPCB Members In the News

Here is part of a press release about OneZoom, a new interactive viewer of phylogenetic trees. Luke Harmon, a SICB DPCB member, is a co-author of the study.

Since Darwin, biologists have struggled to draw a tree showing important details about the many known living organisms and how they are related to one another. Even relatively simple trees have been extremely challenging to visualise without huge sheets of paper or multiple computer screens.



Now OneZoom, which was partly inspired by the zooming technology of mapping software such as Google Maps, makes it possible to start with a broad view of life on Earth, then zoom in on any point to explore incrementally smaller categories of life, using intuitive mouse actions.

Dr James Rosindell, from the Department of Life Sciences at Imperial College London, conceptualized and programmed OneZoom in collaboration with Dr Luke Harmon, from the Department of Biological Sciences at the University of Idaho. "OneZoom gives you a natural way to explore large amounts of complex information like the tree of life," explained Dr Rosindell. "It's intuitive because it's similar to the way we explore the real world; by moving towards interesting objects to see them in more detail."

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The traditional tree of life is generally drawn starting with a thick trunk that represents the first life on earth. The trunk then splits into large boughs for different categories of life such as plants and animals, then ever smaller branches for groups such as insects, fish, birds and mammals. The amount of information the tree can show is usually constrained by the size of the paper it's viewed on, but Dr Rosindell saw a way to overcome this problem, taking advantage of the unlimited space in the digital world.

"We're still looking at data on the screen in ways that can easily be printed on paper and that's a serious visual constraint. In fact it's no longer necessary to restrict ourselves in this way because we now mostly view the information on a screen only. OneZoom embraces this by laying out the data in an exciting, interactive way that could not be captured on printed sheets," he said.

OneZoom looks initially like a tree, with trunk, branches and twigs, and each species represented by a colored leaf. As you travel along the trunk towards the first branches, it's easy to zoom in and out, pan around, and explore the evolutionary links between different species of organism, as though they were roads on a map. By zooming in on each sub group of organisms, more details are revealed, such as the degree to which their members are threatened with extinction, links to more information, and soon photographs.

Currently the OneZoom site only features the tree of mammals, including over 5,000 species that are arranged in closely related groups and color-coded to indicate their risk of extinction according to the internationally recognized IUCN Red List. Dr Rosindell aims to complete the next stages of the project over the coming years. This will involve refining the content of OneZoom and growing its scope as more data becomes available from international research projects, such as the Open Tree of Life Project.

"After decades of study, scientists are probably only a year away from having a first draft of the complete tree of life. It would be a great shame if having built it we had no way to visualize it," Dr Rosindell continued.

Dr Rosindell hopes that OneZoom will be used by scientists to help uncover new patterns in nature, to teach people about the evolution and diversity of life, and to help make attractive and engaging displays for venues such as zoos and museums.

Professor Joel Cracraft, Curator in charge of birds at the American Museum of Natural History in New York, added: "This will revolutionize how we teach and understand the Tree of Life. It is an invaluable tool for communicating the grand scope of life's history to children as well as adults."

"The problem of visualizing an evolutionary tree for millions of species is a challenging one. OneZoom provides a creative solution that will be of great utility, especially for web-based representations of the tree of life," said evolutionary biologist Professor David Hillis, at the University of Texas at Austin in the USA.

If you are a DPCB member 'in the news,' please let us know, by sending an email to DPCB secretary (**Secretary.DPCB@sicb.org**). We'd love to feature your work in our next newsletter.