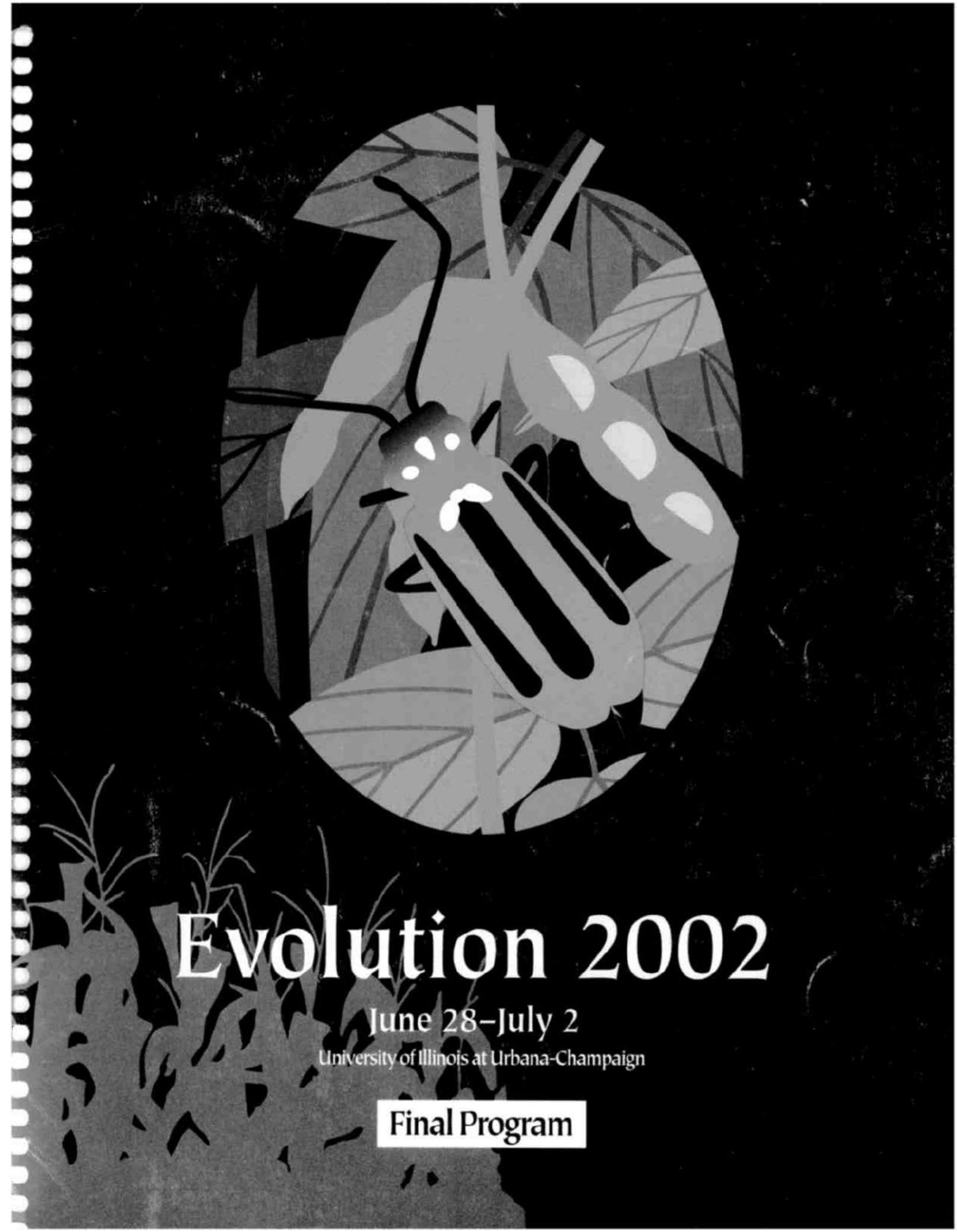

# Evolution 2002

June 28–July 2

University of Illinois at Urbana-Champaign

**Final Program**

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# Acknowledgments

Because neither of us had ever served on a local arrangements committee before, we began this experience a little like Mickey Rooney and Judy Garland in "Babes in Arms"—with the rallying cry of "Let's put on a show!" but with no practical experience in the details. The show just wouldn't have gone on without the help of many extraordinary people. First, we have to thank the extremely capable staff at UI Conferences & Institutes, including James Onderdonk, Scott Miller, Stephanie Shockey, David Ward, and Mona Knight, who are in the business of insuring that shows (and conferences and even institutes) are successful and who attended efficiently and professionally to every detail, from meeting room logistics to tote bag design. The logo on the tote bag, depicting *Diabrotica virgifera*, the western corn rootworm, was ably and creatively designed by Gretchen Wieshuber. Given recent evidence that this corn specialist has evolved resistance to the corn/soybean rotation used for decades for rootworm management in the Midwest, ovipositing not in cornfields but in soybean fields, we felt that it was an especially appropriate symbol for our meeting. Kevin Johnson did an absolutely brilliant job as program chair; his training in systematics no doubt accounted, at least in part, for his consummate skill in classifying, grouping, and organizing a bewildering diversity of talks and posters. He was ably assisted by Mike Ward, who by artful and gentle arm-twisting managed to recruit moderators for every session. Rose Reynolds took on the daunting task of organizing the graduate student volunteers and recruited an enthusiastic and capable crew, without whose help this conference simply couldn't have happened. Sydney Cameron, Stephen Downie, Ken Paige, and James Whitfield all provided advice and counsel at critical junctures. We're grateful to John Dudley, Karlene Ramsdell, Tom Phillips, Dan Blake, and Barbara Jones of the University of Illinois, Beth Wohlgemuth of the Illinois Natural History Survey, and Ben Williams of the Chicago Field Museum for sharing their expertise and artifacts, allowing us to showcase state and university contributions to the study of evolution. Thanks, too, to Richard Leskosky for identifying and finding animated films to show at our Evolution film festival. We also thank Sam Donovan and Michael Antolin for organizing the fourth annual Educational Program and Symposium.

We know it's inevitable that some (maybe even all) of you will have a problem at some point during the meeting. For this we apologize ahead of time; we wish, for example, that we could control the weather in east central Illinois in June or the construction work in Campustown that always seems to block streets at the most inopportune time. We've tried to anticipate major problems and to minimize their likelihood of occurring. We hope, though, that the problems are few and surmountable and that you'll enjoy the meeting despite them; despite the problems we've encountered over the past 12 months, we've certainly enjoyed putting this meeting together for you. Thanks for coming!

*May Berenbaum and Stewart Berlocher, Co-chairs*
*Local Arrangements Committee*

# Welcome to Urbana-Champaign!

You are cordially invited to visit the twin cities of Urbana and Champaign, in the heart of east central Illinois. In case you're wondering, they're not identical twins; their births were separated by about 30 years. Urbana dates back to 1822, when William Tompkins built the first homestead on the site that 11 years later was officially platted as a new city, whereas Champaign didn't come into existence until 1852, when the Illinois Central Railroad laid tracks two miles outside of Urbana and residents who settled close by rejected annexation efforts and instead incorporated their own city a few years later. Despite the fact that the two cities now share many services (as well as Wright Street, the official dividing line) and are cooperative and cordial with each other, referenda to merge the two into a single metropolis have been, since 1855, consistently and resoundingly defeated. The courthouse in Urbana, the permanent county seat for Champaign County, was frequented in the 1840s and 1850s by a young lawyer by the name of Abraham Lincoln, who practiced law in the 8th Judicial Circuit. In 1854, he delivered one of his first public speeches against slavery in the county courthouse in downtown Urbana.

The lives of the residents of Urbana and Champaign were changed forever when, in 1867, the Illinois Industrial University, later to become the University of Illinois at Urbana-Champaign, was chartered.

## About the University of Illinois at Urbana-Champaign

The University of Illinois at Urbana-Champaign is a comprehensive, major public university that is ranked among the best in the country. The University of Illinois at Urbana-Champaign was founded in 1867 as a state-supported, land-grant institution with a threefold mission of teaching, research, and public service. The University has earned a reputation as an institution of international stature. It is recognized for the high quality of its academic programs and the outstanding facilities and resources it makes available to students and faculty. Scholars and educators rank it among a select group of the world's great universities. For more information, see the university Web site (http://www.uiuc.edu). Located in the adjoining cities of Champaign and Urbana (combined population 100,000), approximately 140 miles south of Chicago, the University and its surrounding communities offer a cultural and recreational environment ideally suited to the work of a major research institution. The University is a residential campus of classrooms, laboratories, libraries, residence halls, and recreational and cultural facilities with 200 major buildings on the central campus of 1,470 acres. Nearby are the University's 1,650-acre Willard Airport; Robert Allerton Park, the campus's 1,768-acre nature and conference center; and 3,600 acres of agricultural land. An additional 3,700 acres of farmland elsewhere in Illinois are used by the College of Agricultural, Consumer, and Environmental Sciences as experimental fields.

# Sponsors

The organizers gratefully acknowledge the generous support of the School of Integrative Biology and the Office of the Vice Chancellor for Research at the University of Illinois at Urbana-Champaign and Taylor & Francis as sponsors of the 2002 Joint Meeting of the Society for the Study of Evolution and the Society for Systematic Biology.

# General Conference Information

## Registration Desk

The conference registration desk, located in the South Lounge of the Union, will be open according to the following schedule:

| | |
|---|---|
| Friday, June 28, 2002 | 9:30 AM–9:00 PM |
| Saturday, June 29, 2002 | 8:00 AM–5:00 PM |
| Sunday, June 30, 2002 | 8:00 AM–5:00 PM |
| Monday, July 1, 2002 | 8:00 AM–5:00 PM |
| Tuesday, July 2, 2002 | 8:00 AM–5:00 PM |

Your registration includes the conference program, a continental breakfast each day of the conference, morning and afternoon breaks each day of the conference, a welcoming reception, poster session receptions, and a conference picnic.

## Meals

A limited **continental breakfast** is included as part of your conference registration. Breakfast will be served each morning in Illini Room C of the Union from 7:00 AM–9:00 AM.

**Lunch** is "on your own" unless you purchase the residence hall meal package in advance or at the registration desk on Friday, June 28th. The residence hall lunch will be served each day in the Illinois Street Residence Hall from 11:30 AM–1:00 PM. Illinois Street Residence Hall is located at 1010 W. Illinois Street, approximately three blocks east of the Illini Union. See map on inside back cover of program for directions.

**Dinner** is "on your own" except for the Sunday evening picnic. The picnic will be held at the University's Arboretum near the corners of Lincoln and Florida Avenues. The Arboretum is just southeast of the Florida Avenue Residence Halls. A shuttle service will run continuously between the picnic and conference hotels.

The conference **banquet** will be held in the Ballroom on the second floor of the Union on Tuesday, July 2 from 6:00 PM–9:00 PM. Purchase of banquet tickets was required in advance with your conference registration. A very limited number of tickets may be available for purchase at the registration desk during the conference.

## Special Events

**Welcome Reception:** Friday, June 28 in the South Lounge of the Union from 6:00–9:00 PM.

**Outreach Seminar:** Saturday, June 29 in Foellinger from 6:00–7:00 PM

**Poster Session Receptions:** Saturday, June 29 and Monday, July 1 in the Union Illini Rooms A-B from 7:00–9:00 PM.

**Conference Picnic:** Sunday, June 30 at the University's Arboretum from 6:00 PM–9:00 PM. Entertainment by the bluegrass band High Cotton.

**Evolution Film Festival:** Monday, July 1 from 7:00 PM–8:30 PM in Foellinger

In the normal course of practicing their art, animators routinely deal with continuous change and metamorphosis. It's not surprising, then, that they are often drawn toward evolution as a theme. UIUC Cinema Studies professor Richard Leskosky, former president of the Society for Animation Studies, and entomology professor May Berenbaum, founder of the UIUC Insect Fear Film Festival (now entering its 20th year), will present a collection of award-winning animated shorts from around the world that revolve around the theme of evolutionary change. Possible titles include Bead Game (Oscar nominee); Clay, or Origin of Species (Oscar nominee); Evolution (Oscar nominee); A Very Very Long Time Ago; A World is Born (Rite of Spring section of Fantasia); and Allegro Non Troppo.

**Conference Banquet:** Tuesday, July 2 in the Ballroom of the Union from 6:00–9:00 PM.

## Shuttle Service

A continuous shuttle service will be provided between Florida Avenue Residence Halls, conference hotels, and the Illini Union. See page 82 for details.

## Message Board

A message board will be located at the registration desk in the South Lounge of the Union.

*Note to Session Moderators, Speakers, and Poster Presenters*

## Moderators

If you are moderating a session, please arrive a few minutes early to insure that audio-visual equipment is in place and functional. At each session, a graduate student volunteer should be on hand to take care of projection needs. Each room should also be equipped with a timer and a laser pointer. In contributed paper sessions, 15 minutes, including time for questions, are allocated to each speaker; the moderator should alert speakers when 3 minutes remain and again indicate when one minute remains. After 15 minutes, all speakers should be asked to leave the podium. If the speaker has used his/her entire 15 allotted minutes, then the speaker cannot take questions. Please announce this format at the beginning of the session. And please, too, stay on time–if a speaker ends early or if there is a cancellation, do not introduce the next speaker until the time designated for that talk.

## Speakers

Please consult the program ahead of time to confirm the time and location of your talk. Arrive early at your session–if you are planning to use slides, bring a carousel already loaded. Find the session moderator and identify yourself so that he or she is aware that you are present. Please try to stay within your allotted time—it's a courtesy to your audience and fellow speakers not only in your session but in concurrent sessions as well. If you would like to preview your 35mm slides, you may do so in the South Lounge of the Union. The room will be open 8:00 AM–9:00 PM, Saturday–Tuesday. If you need to test a computer presentation, you can do so in room 218 of the Mechanical Engineering Building. The building is open Saturday, June 29, 8:00 AM-6:00 PM; Sunday, June 30, 10:00 AM–6:00 PM; Monday, July 1, 8:00 AM–6:00 PM; and Tuesday, July 2, 8:00 AM–6:00 PM.

## Poster Presenters

All poster sessions will be held in Illini Rooms A-B of the Union. Numbered poster boards corresponding to the poster titles listed in the final program are available in these rooms. Each poster is assigned a space measuring 4' by 4'. Please put up your poster between 7:00 PM–10:00 PM on Friday, June 28. Posters should remain up through the second poster session on Monday, July 1 from 7:00 PM–9:00 PM. Posters must be removed by Tuesday, July 2 at 5:00 PM. Any posters remaining will be discarded. Please stand by your poster during your designated poster session.

Refreshments will be available at both scheduled poster-viewing sessions.

## E-mail

A computer lab in 425 of the Natural History Building (fourth floor) will be open if you wish to check your e-mail. The lab will be open Saturday, June 29 through Tuesday, July 2 from 8:00 AM–5:00 PM.

## Emergency Numbers and Procedures

911 or 9-911 (campus phone): Police, Fire, or Ambulance

333-8911 or 3-8911 (campus phone): Police, non-emergency

### *Medical Assistance:*

383-3311: Carle Foundation Hospital
366-1200: Christie Clinic
337-2000: Provena Covenant Medical Center

### *Tornado Preparedness:*

East-central Illinois is prone to summer thunderstorms; often conditions are conducive to tornadoes. If you hear the sirens go off, a tornado warning is in effect; this means that a funnel cloud has been spotted in the vicinity. On campus, take cover immediately in the lowest floor of a building; stay away from windows.

### *Fire Procedure:*

Exit building in a calm and orderly manner. If you are on an upper level floor, exit by the nearest stairwell. Do not use elevators.

## Special Displays and Tour

The state and University of Illinois have made important contributions to the study of evolution over the last 150 years. To bring these contributions, some not widely appreciated, to the attention of evolutionary biologists, the local organizing committee has prepared several displays of original documents, photographs, and specimens that will available for viewing at the entrance to the Main Library building, and in the Rare Books Room. These include:

### *Darwin-Walsh Correspondence*

Sometimes referred to as "Darwin's Little Bulldog" for his efforts to convert American naturalists to Darwinism, Benjamin Walsh is today most remembered for being the originator of the idea of sympatric speciation via host shift (and as the author of the apple maggot, *Rhagoletis pomonella* [Walsh]). This remarkable English naturalist did research (and farmed) on the Illinois prairie of the 1860s, while corresponding extensively with leading European naturalists, including Charles Darwin. With the cooperation of the Field Museum of Natural History and the Rare Books Collection of the University of Illinois Urbana-Champaign, we are pleased to be able to display original letters between Darwin and Walsh (in the Rare Books Room, Main Library Building).

### *100 Years of Scientific Selection on Corn*

The corn selection lines for high and low oil, carbohydrates, and protein started at the University of Illinois in the 1890s represent the world's longest-running controlled artificial selection experiments. These experiments have been discussed in books ranging from high school biology texts to Futuyma's and Hartl and Clark's widely used evolution texts. In addition to displays of results through 100 generations, we will have a field trip to see the actual plantings on the south farms during the Evolution meetings (date to be announced), organized with the assistance of Dr John Dudley. Sign up at the conference registration desk. Space is limited to the first 50 people.

### *Mazon Creek Fossils*

The Mazon Creek formation of northwestern Illinois, of Pennsylvanian age ( ~ 300 MYA), is among the very few that contain impressions of entire animals and plants, not just skeletal remains. The Mazon Creek biota contains both marine and freshwater, and aquatic and terrestrial organisms, ranging from jellyfish to lampreys (with notochord impressions) to salamanders. The formation does not include as many "odd" creatures as the older Burgess Shale, but it does include such remarkable and difficult-to-place taxa as the mysterious "Tully monster", the state fossil of Illinois. While it is not feasible to set up a trip to the site itself (the ironstone nodules containing the specimens now come mostly from coal mines that are difficult to gain access to), we will have a display of both common and rare specimens, as well as a "What is a Tully Monster?" poll. This display is being assembled with the help of the Field Museum, Dr. Dan Blake of the Geology Department, and collector and Entomology graduate student Karlene Ramsdell.

### *Fine Structure of Pennsylvanian Plants in Coal Balls*

Professor Tom Phillips, recently elected to the National Academy of Sciences, has devoted a lifetime to the study of "coal balls" in Pennsylvanian age plants. These permineralized plant remains allow plant anatomy to be studied at the cellular level (far beyond what can be observed even in extraordinary material such as the Mazon Creek fossils). In addition to a display of specimens, Professor Phillips will lead a tour of his facility on the South Farms, including the largest collection of coal balls in the world. Sign up at the conference registration desk. Space is limited to the first 50 people.

## A Note about Meeting Space

In order to provide computer projection capability in all meeting rooms we were not able to cluster meeting rooms in one area. Participants should expect to walk some distance between meeting rooms. We apologize for any inconvenience.

## Exhibit Schedule

Exhibits are located in the Union Illini Rooms A-B.

| | | |
|---|---|---|
| Fri., June 28 | Set-up | 6:00–10:00 PM |
| Sat., June 29 | Show | 8:00 AM–12:00 PM and 1:30 PM–9:00 PM |
| Sun., June 30 | Show | 8:00 AM–12:00 PM and 1:30 PM–9:00 PM |
| Mon., July 1 | Show | 8:00 AM–12:00 PM and 1:30 PM–9:00 PM |
| Tues., July 2 | Show | 8:00 AM–12:00 PM |
| | Tear-down | 12:00 PM–5:00 PM |

## Exhibitor Descriptions:

### *Academia Book Exhibits*

Bruce Davis, acadbkexbs@aol.com

Professional books and journals.

### *American Institute of Biological Sciences*

Donna Royston, RLINK, droyston@aibs.org

The American Institute of Biological Sciences (AIBS) is an umbrella organization for professional scientific societies and individuals. AIBS provides services, support, and a voice for biological disciplines that are united by their dedication to research and education. Members' interests span from basic to applied biology, from agronomy to zoology, www.aibs.org.

### *Blackwell Publishing*

Liz Durzy, ldurzy@blacksci.com

Blackwell Publishing is a leading international publisher in the area of science and medicine. Please stop by our booth for complimentary copies of our journals and visit our website http://www.blackwellscience.com for detailed information on all of our publications.

### *Dragonfly Glass*

Jaye Houle, jayehoule@cs.com

Handcrafted and biologist approved arthropods in stained and fused glass. Commissions and special orders welcome. Imagine your favorite insect in glass. www.dragonflyglass.biz

### *H. Stevan Logsdon/Wildlife Artist*

Quality Wildlife Jewelry and T-Shirts, with scientific accuracy.

### *Harvard University Press*

Gilly Parker, gilly_parker@harvard.edu

### *Oxford University Press*

Diane Crouch, dmc@oup-usa.org

Oxford will display its newer publications of interest to evolutionary biologists, including Trivers, Natural Selection and Social Theory; Moore, Parasites and the Behavior of Animals; Mayr and Diamond, The Birds of Northern Melanesia; and Markos Readers of the Book of Life: Contextualizing Developmental Evolutionary Biology.

### *Prentice Hall*

Gail Goodell, gail.goodell@pearsoned.com

### *Princeton University Press*

Sam Elworthy, 609-258-4915

Princeton University Press publishes major work in evolution, ecology, and behavior. New titles include Frank's *Immunology and Evolution of Infectious Disease*, Simmons's *Sperm Competition*, Barrett, Dunbar, and Lycett's *Human Evolutionary Psychology*, Raby's *Alfred Russell Wallace*, and Corballis's *From Hand to Mouth: The Origins of Language*.

### *Sinauer Associates, Inc.*

Marie Scavotto, scavotto@sinauer.com

ON DISPLAY: Felsenstein: *Inferring Phylogenies*; Pigliucci: *Denying Evolution*; Donovan and Welden: *Spreadsheet Exercises in Ecology and Evolution*; Morris and Doak: *Quantitative Conservation Biology: Theory and Practice of Population Viability Analysis*; Gurevitch, Scheiner, and Fox: *The Ecology of Plants*; Gibson and Muse: *A Primer of Genome Science*; Hall: *Phylogenetic Trees Made Easy*; Roff: *Life History Evolution*; Wilkins: *The Evolution of Developmental Pathways*.

### *Taylor & Francis*

Charles Mensah, cnmensah@taylorandfrancis.com

Taylor & Francis Inc. is proud to publish Systematic Biology, the official journal of the Society of Systematic Biologists. Stop by our booth during the meeting or visit our web site anytime to learn more about our Books and Journals Programs: www.taylorandfrancis.com

### *University of Chicago Press*

Dawn Odell, duo@press.uchicago.edu

### *"Whatdidyoubringme?"*

Kathy Wildman, kattwild@hotmail.com

I provide a wide range of scientifically accurate natural history t-shirts, neckties, children's books etc. (An important service to attendees who need that "Whatdidyoubringme?" gift to get back through the front door at home.) Sales support K-12 curriculum development using the garden as a hands-on science lab. New this year are wonderful Ray Troll evolution shirts.

## Building Key Listing

ASL – Animal Sciences Laboratory, 1207 W. Gregory

Bevier – Bevier Hall, 905 W. Goodwin

Burrill – Burrill Hall, 407 S. Goodwin

DKH – David Kinley Hall, 1407 W. Gregory

Everitt – Everitt Electrical & Computer Engineering Hall, 1406 W. Green

Foellinger – Foellinger Auditorium, 709 S. Mathews

Greg – Gregory Hall, 810 S. Wright

Levis – Levis Faculty Center, 919 W. Illinois

Lincoln – Lincoln Hall, 702 S. Wright

MEB – Mechanical Engineering Building, 105 S. Mathews

MSEB – Materials Science & Engineering Building, 1304 W. Green

Mumford – Mumford Hall, 1301 W. Gregory

Natural History – Natural History Building, 1301 W. Green

Transport – Transportation Building, 104 S. Mathews

Union – Illini Union, 1401 W. Green

Wohlers – Wohlers Hall (formerly Com West), 1206 S. Sixth

## Special Meetings

| | | |
|---|---|---|
| ***Friday, June 28*** | | |
| Joint Council Meeting | Levis 407 | 11:00 AM–1:30 PM |
| SSB Council Meeting | Levis 407 | 2:00 PM–5:30 PM |
| SSE Council Meeting | Levis 402-404 | 2:00 PM–5:30 PM |
| Education Committee Meeting | Levis 3rd floor | 1:00 PM–3:00 PM |
| ***Saturday, June 29*** | | |
| SSE General Business Meeting | Levis 3rd floor | 12:00 PM–1:15 PM |
| SSE Editorial Board Meeting | Levis Music Room | 12:00 PM–1:30 PM |
| SSB Editorial Board Meeting | Levis 407 | 12:00 PM–1:30 PM |
| ***Sunday, June 30*** | | |
| NSF General Presentation | Levis 3rd floor | 12:00 PM–1:30 PM |
| ***Monday, July 1*** | | |
| SSB General Business Meeting | Foellinger | 5:00 PM–6:30 PM |

# Daily Event Schedule

*Talk number in parentheses*

| | | | |
|---|---|---|---|
| **Friday, June 28** | | | |
| **Registration** | | Union–South Lounge | 9:30 AM–9:00 PM |
| Joint Council meeting: | | Levis 407 | 11:00 AM–1:30 PM |
| SSB Council meeting: | | Levis 407 | 2:00 PM–5:30 PM |
| SSE Council meeting: | | Levis 402-4 | 2:00 PM–5:30 PM |
| Education Committee meeting: | | Levis 3rd floor | 1:00 PM–3:00 PM |
| Welcome Reception | | Union–South Lounge | 6:00 PM–9:00 PM |
| **Saturday, June 29 • Morning** | | | |
| **Registration** | | Union–South Lounge | 8:00 AM–5:00 PM |
| **SSE Symposium** | | | |
| Green Evolution: Evolutionary Theory and Results in Agricultural Systems (1–8) | | Natural History 228 | 8:15 AM–12:15 PM |
| **Sessions** | Development & Evolution I (9–14) | Wohlers 141 | 8:30 AM–10:00 AM |
| | Evolution of Sex (21–26) | Bevier 180 | 8:30 AM–10:00 AM |
| | Molecular Evolution I (33–38) | DKH 114 | 8:30 AM–10:00 PM |
| | Invertebrate Phylogenetics & Systematics I (45–50) | Greg 112 | 8:30 AM–10:00 AM |
| | Vertebrate Phylogeography/Geographic Variation (57–62) | Greg 100 | 8:30 AM–10:00 AM |
| Break | | Union/Foellinger | 10:00 AM–10:30 AM |
| | Development & Evolution I (cont.) (15–20) | Wohlers 141 | 10:30 AM–12:00 PM |
| | Mutations (27–32) | Bevier 180 | 10:30 AM–12:00 PM |
| | Molecular Evolution I (cont.) (39–44) | DKH 114 | 10:30 AM–12:00 PM |
| | Invertebrate Phylogenetics & Systematics (cont.) (51–56) | Greg 112 | 10:30 AM–12:00 PM |
| | Vertebrate Phylogeography/Geographic Variation (cont.) (64–68) | Greg 100 | 10:30 AM–12:00 PM |
| SSE General Business Meeting | | Levis 3rd floor | 12:00 PM– 1:15 PM |
| SSE Editorial Board Meeting | | Levis Music Room | 12:00 PM– 1:30 PM |
| SSB Editorial Board Meeting | | Levis 407 | 12:00 PM– 1:30 PM |
| **Saturday, June 29 • Afternoon** | | | |
| **Evolution Education Symposium** | | | |
| Teaching Socially Relevant Examples of Evolution (69–73) | | Foellinger | 1:15 PM–4:00 PM |
| **Sessions** | Adaptation (77–83) | Wohlers 141 | 1:15 PM–3:00 PM |
| | Agriculture (90, 91, 180, & 93–95) | Natural History 228 | 1:15 PM–3:00 PM |
| | Genomics I (102–108) | DKH 114 | 1:15 PM–3:00 PM |
| | Vertebrate Phylogenetics & Systematics I (115–121) | Greg 112 | 1:15 PM–3:00 PM |
| | Invertebrate Phylogeography/Geographic Variation (128–134) | Greg 100 | 1:15 PM–3:00 PM |
| | Speciation I (141–147) | Mumford 103 | 1:15 PM–3:00 PM |

| | | | |
|---|---|---|---|
| Break | | Union/Foellinger | 3:00 PM–3:30 PM |
| | Adaptation (cont.) (84–89) | Wohlers 141 | 3:30 PM–5:00 PM |
| | Mating System/Breeding System, Plants (96–100) | Natural History 228 | 3:30 PM–5:00 PM |
| | Genomics 1 (cont.) (109–114) | DKH 114 | 3:30 PM–5:00 PM |
| | Vertebrate Phylogenetics & Systematics 1 (cont.) (122–127) | Greg 112 | 3:30 PM–5:00 PM |
| | Invertebrate Phylogeography/Geographic Variation 1 (cont.) (135–140) | Greg 100 | 3:30 PM–5:00 PM |
| | Speciation 1 (cont.) (148–153) | Mumford 103 | 3:30 PM–5:00 PM |
| **Session** | Education (74–76) | Foellinger | 4:00 PM–4:45 PM |
| Outreach Seminar (S. R. Palumbi) | | Foellinger | 6:00 PM–7:00 PM |
| Poster Session | | Union–Illini Rooms A-B | 7:00 PM–9:00 PM |
| **Sunday, June 30 • Morning** | | | |
| **Registration** | | Union–South Lounge | 8:00 AM–5:00 PM |
| **SSB Symposium** | | | |
| Networks: Visualizing Complex Phylogenetic Patterns (154–160) | | Natural History 228 | 8:00 AM–12:00 PM |
| **Sessions** | Comparative Biology (161–164, 409, & 166) | Wohlers 141 | 8:30 AM–10:00 AM |
| | Ecological Genetics 1 (173–178) | Bevier 180 | 8:30 AM–10:00 AM |
| | Life History Evolution (185–189) | Mumford 103 | 8:30 AM–10:00 AM |
| | Molecular Evolution 2 (196–201) | DKH 114 | 8:30 AM–10:00 AM |
| | Phylogeography/Geographic Variation 1 (208–213) | Greg 100 | 8:30 AM–10:00 AM |
| | Speciation 2 (220–225) | Greg 112 | 8:30 AM–10:00 AM |
| Break | | Union/Foellinger | 10:00 AM–10:30 AM |
| | Macroevolution (167–172) | Wohlers 141 | 10:30 AM–12:00 PM |
| | Ecological Genetics 1 (cont.) (179, 92, & 181–184) | Bevier 180 | 10:30 AM–12:00 PM |
| | Life History Evolution (cont.) (190–195) | Mumford 103 | 10:30 AM–12:00 PM |
| | Molecular Evolution 2 (cont.) (202–207) | DKH 114 | 10:30 AM–12:00 PM |
| | Phylogeography/Geographic Variation 1 (cont.) (214–219) | Greg Hall 100 | 10:30 AM–12:00 PM |
| | Speciation 2 (cont.) (226–230) | Greg Hall 112 | 10:30 AM–12:00 PM |
| NSF General Presentation | | Levis 3rd floor | 12:00 PM–1:30 PM |
| **Sunday, June 30 • Afternoon** | | | |
| **SSB Symposium** | | | |
| Untangling Coevolutionary History (231–237) | | Foellinger | 1:15 PM–5:00 PM |
| **Sessions** | Conservation Biology 1 (238–244) | Natural History 228 | 1:15 PM–3:00 PM |
| | Evolution in Microorganisms (251–257) | Wohlers 141 | 1:15 PM–3:00 PM |
| | Hybridization 1 (264–270) | Mumford 103 | 1:15 PM–3:00 PM |
| | Mating/Breeding Systems (277–283) | DKH 114 | 1:15 PM–3:00 PM |
| | Vertebrate Phylogenetics & Systematics 2 (288–294) | Greg 112 | 1:15 PM–3:00 PM |
| | Population Genetics 1 (300–306) | Greg 100 | 1:15 PM–3:00 PM |
| Break | | Union/Foellinger | 3:00 PM–3:30 PM |

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|---|---|---|---|
| | Conservation Biology 1 (cont.) (245–250) | Natural History 228 | 3:30 PM–5:00 PM |
| | Phenotypic Plasticity & GxE (258–263) | Wohlers 141 | 3:30 PM–5:00 PM |
| | Hybridization 1 (cont.) (271–276) | Mumford 103 | 3:30 PM–5:00 PM |
| | Mating/Breeding Systems (cont.) (284–287) | DKH 114 | 3:30 PM–5:00 PM |
| | Vertebrate Phylogenetics & Systematics 2 (cont.) (295–299) | Greg 112 | 3:30 PM–5:00 PM |
| | Population Genetics 1 (cont.) (307–312) | Greg 100 | 3:30 PM–5:00 PM |
| Conference Picnic – University Arboretum (1st & Florida Ave.) | | | 6:00 PM–9:00 PM |
| **Monday, July 1 • Morning** | | | |
| **Registration** | | Union–South Lounge | 8:00 AM–5:00 PM |
| **SSE Symposium** | | | |
| New Physiological Approaches to the Study of the Cost of Reproduction (313–320) | | Wohlers 141 | 8:00 AM–12:00 PM |
| Computer Workshop on Visualizing Complex Phylogenetic Patterns with Networks | | Burrill 164D/E | 9:00 AM–12:00 PM |
| **Sessions** | Coevolution (321–326) | ASL 150 | 8:30 AM–10:00 AM |
| | Molecular Evolution 3 (332–337) | MSEB 100 | 8:30 AM–10:00 AM |
| | Invertebrate Phylogenetics & Systematics 2 (344–349) | DKH 114 | 8:30 AM–10:00 AM |
| | Plant Reproductive Biology (356–361) | Everitt 151 | 8:30 AM–10:00 AM |
| | Population Genetics 2 (368–373) | Lincoln 192 | 8:30 AM–10:00 AM |
| | Speciation 3 (380–385) | Burrill 124 | 8:30 AM–10:00 AM |
| Break | | Union/Foellinger | 10:00 AM–10:30 AM |
| | Species Interactions (327–331) | ASL 150 | 10:30 AM–12:00 PM |
| | Molecular Evolution 3 (cont.) (338–343) | MSEB 100 | 10:30 AM–12:00 PM |
| | Invertebrate Phylogenetics & Systematics 2 (cont.) (350–355) | DKH 114 | 10:30 AM–12:00 PM |
| | Plant Reproductive Biology (cont.) (362–367) | Everitt 151 | 10:30 AM–12:00 PM |
| | Population Genetics 2 (cont.) (374–379) | Lincoln 192 | 10:30 AM–12:00 PM |
| | Speciation 3 (cont.) (386–391) | Burrill 124 | 10:30 AM–12:00 PM |
| Getting an Academic Job | | Levis 3rd Floor | 12:00 PM–1:00 PM |
| **Monday, July 1 • Afternoon** | | | |
| **Sessions** | Conservation Biology 2 (392–400) | DKH 114 | 1:15 PM–3:30 PM |
| | Development & Evolution 2 (401–408 & 165) | Everitt 151 | 1:15 PM–3:30 PM |
| | Inbreeding (410–416) | Burrill 124 | 1:15 PM–3:30 PM |
| | Phylogenetic Theory & Methods 1 (417–425) | Wohlers 141 | 1:15 PM–3:30 PM |
| | Population Genetics 3 (426–434) | Lincoln 192 | 1:15 PM–3:30 PM |
| | Sexual Selection 1 (435–443) | ASL 150 | 1:15 PM–3:30 PM |
| | Dobzhansky Prize Talk | Foellinger | 2:55 PM–3:30 PM |
| Break | | Union/Foellinger | 3:30 PM–4:00 PM |
| SSB Presidential Address | | Foellinger | 4:00 PM–5:00 PM |
| SSB General Business Meeting | | Foellinger | 5:00 PM–6:30 PM |
| Poster Session: | | Union–Illini Rooms A-B | 7:00 PM–9:00 PM |
| Evolution Film Festival | | Foellinger | 7:00 PM–8:30 PM |

| Tuesday, July 2 • Morning | | | |
|---|---|---|---|
| Registration | | Union–South Lounge | 8:00 AM–5:00 PM |
| Sessions | Quantitative Genetics 1 (444–449) | DKH 114 | 8:30 AM–10:00 AM |
| | Evolution of Behavior (456–460) | Everitt 151 | 8:30 AM–10:00 AM |
| | Phylogenetic Theory & Methods 2 (466–471) | MSEB 100 | 8:30 AM–10:00 AM |
| | Population Genetics 4 (478–483) | Transport 103 | 8:30 AM–10:00 AM |
| | Sexual Selection 2 (490–494) | ASL 150 | 8:30 AM–10:00 AM |
| | Hybridization 2 (501–506) | Burrill 124 | 8:30 AM–10:00 AM |
| Break | | Union/Foellinger | 10:00 AM–10:30 AM |
| | Quantitative Genetics 1 (cont.) (450–455) | DKH 114 | 10:30 AM–12:00 PM |
| | Evolution of Behavior (cont.) (461–465) | Everitt 151 | 10:30 AM–12:00 PM |
| | Phylogenetic Theory & Methods 2 (cont.) (472–477) | MSEB 100 | 10:30 AM–12:00 PM |
| | Population Genetics 4 (cont.) (484–489) | Transport 103 | 10:30 AM–12:00 PM |
| | Sexual Selection 2 (cont.) (495–500) | ASL 150 | 10:30 AM–12:00 PM |
| | Invertebrate Life History Evolution (507–512) | Burrill 124 | 10:30 AM–12:00 PM |
| **Tuesday, July 2 • Afternoon** | | | |
| Sessions | Ecological Genetics of Plants (513–521) | ASL 150 | 1:15 PM–3:30 PM |
| | Phylogeography/Geographic Variation 2 (522–528) | Burrill 124 | 1:15 PM–3:30 PM |
| | Genomics 2 (529–537) | Everitt 151 | 1:15 PM–3:30 PM |
| | Phylogenetic Theory & Methods 3 (538–546) | MSEB 100 | 1:15 PM–3:30 PM |
| | Phylogenetics & Systematics (547–555) | DKH 114 | 1:15 PM–3:30 PM |
| Break | | Union/Foellinger | 3:30 PM–4:00 PM |
| SSE Presidential Address | | Foellinger | 4:00 PM–5:00 PM |
| Banquet, including presentation of Mayr student awards | | Union Ballroom | 6:00 PM–9:00 PM |

# Scientific Program • Oral Presentations

*After the title indicates a candidate for the Ernst Mayr Student Award

The institution is for the first author only

## Saturday June 29 AM

### *SSE Symposium*

### *Green Evolution: Evolutionary Theory and Results in Agricultural SystemsNatural History 228*

*Organizers: Jay Evans & Sonja Scheffer*

8:15–8:30 1 **Evolutionary insights from and for agricultural systems**
J. Evans. Bee Research Lab. USDA-ARS

8:30–9:00 2 **Molecular systematics in agriculture: Cryptic species and geographic origins of invasive leafminers**
S. Scheffer. USDA, Systematic Entomology Lab

9:00–9:30 3 **Genetics and phylogeography of Colorado potato beetle colonization of the potato ecosystem**
D. J. Hawthorne. University of Maryland

9:30–10:00 4 **Autocidal pest control: The population genetics of self destruction**
F. Gould & P. Schliekelman. North Carolina State University

10:15–10:45 5 **Overdominance and animal breeding programs**
J. Mitton. University of Colorado

10:45–11:15 6 **Genetic approaches to understanding and manipulating honey bee behavior**
R. E. Page. University of California, Davis

11:15–11:45 7 **Evolutionary ecology of legume-rhizobium interactions: management implications**
E. L. Simms, J. D. Bever, & D. Lee Taylor. University of California, Berkeley

11:45–12:15 8 **Comparative genetics and genomics of disease resistance genes across the Solanaceae**
M. Jahn. Cornell University

### *Development & Evolution 1*
### *Wohlers 141*

*Session Moderator: Kevin Foster*

8:30 9 **The costs and benefits of chimerism**
K. R. Foster, A. Fortunato, J. E. Strassmann, & D. C. Queller. Rice University

8:45 10 **Cooperation and conflict in chimeras of the social amoeba, *Dictyostelium discoideum***
J. Strassmann, A. Fortunato, K. Foster, & D. C. Queller. Rice University

9:00 11 **New insights into the molecular mechanism of *Wolbachia*-induced cytoplasmic incompatibility in *Drosophila***
T. Karr, M. Clark, & C. Anderson. The University of Chicago

9:15 12 **Evolution of the transcriptome in developmental trajectories i: Statistical and theoretical model**
J. Kim & S. Rifkin. Yale University

9:30 13 **Evolution of the transcriptome in developmental trajectories ii: Microarray measurements of *Drosophila* metamorphosis**
S. Rifkin, J. Kim, & K. White. Yale University

9:45 14 **Quantitative trait loci for organ weights and limb bone lengths in mice**
L. J. Leamy, D. Pomp, E. J. Eisen, & J. M. Cheverud. University of North Carolina at Charlotte

*Session Moderator: Laura Corley*

10:30 15 **The development and evolution of proliferation in a polyembryonic parasitoid wasp**
L.S. Corley & C.K. Rubio. Washington State University

10:45 16 **Developmental constraint in drosophilid spermtail evolution**
M. G. Nielsen & E. C. Raff. University of Dayton

11:00 17 **Abdominal pigmentation in *Drosophila* of the *cardini* subgroup: natural variation, ecological correlations, and developmental considerations**
J. A. Brisson, D. De Toni, & I. Duncan. Washington University

11:15 18 **The genetic basis of pigmentation differences between *Drosophila americana* and *D. novamexicana***

B.L. Williams, P.J. Wittkopp, J.E. Selegue, & S.B. Carroll. Howard Hughes Medical Institute / University of Wisconsin

11:30 19 **Effects of pleiotropy on simultaneous evolution of multiple traits**

W. Just & F. Zhu. Ohio University

11:45 20 **The role of ontogeny in parallel speciation of scincid lizards**

J. Richmond. University of Connecticut

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### *Evolution of Sex*
### *Bevier 180*

*Session Moderator: Mark Dybdahl*

8:30 21 **The genetic basis of host-parasite coevolution: matching alleles, epistasis, and hybrid breakdown in parasite local adaptation**

M. Dybdahl, C. Lively, & J. Jokela. Washington State University

8:45 22 **An experimental test of recombination in dengue virus: implications for vaccine design**

K. Hanley, L. Manlucu, J. Blaney, B. Murphy & S. Whitehead. LID/NIAID/NIH

9:00 23 **Exactly when is sex environmentally determined?: pattern and process revisited**

N. Valenzuela, D.C. Adams, & F.J. Janzen. Iowa State University

9:15 24 **An unusual sex ratio distortion associated with an unusual system of mitochondrial DNA inheritance: the case of the blue mussel *Mytilus***

E. Kenchington, B. MacDonald, L. Cao, D. Tsagarakis, & E. Zouros. Institute of Marine Biology of Crete, Greece

9:30 25 **Evolution of gender and sex chromosomes via nuclear methylation driving Muller's ratchet**

R. Gorelick. Arizona State University

9:45 26 **The deleterious mutational hypothesis and the evolution of sex**

R. McBride, M. Travisano & D. Grieg. University of Houston

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### *Mutations*
### *Bevier 180*

*Session Moderator: Christine Spencer*

10:30 27 **Do lab-derived mutant genes function in wild-caught strains of *Drosophila?***

C. C. Spencer, C. E. Howell, A. R. Wright, & D. E. L. Promislow. University of Georgia

10:45 28 **Six years of mutation-accumulation in *C. elegans*: observations and analysis**

L.L. Vassilieva. University of Utah

11:00 29 **Spontaneous mutation accumulation for life history traits in grape phylloxera**

D. Downie. University of California, Davis

11:15 30 **Evidence for low dominance of mildly deleterious mutations in *Drosophila***

J. D. Fry & J. P. Masly. University of Rochester

11:30 31 **Mutation accumulation and mutational covariances among behavior, morphology and fitness in *C. elegans***

B. Ajie, S. Estes, M. Lynch, & P.C. Phillips. University of Oregon

11:45 32 **Natural variation in cytosine methylation—a QTL approach**

N. C. Riddle & E. J. Richards. Washington University

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### *Molecular Evolution 1*
### *DKH 114*

*Session Moderator: Ester Betrán*

8:30 33 **Evolution of retroposed genes**

E. Betrán. University of Chicago

8:45 34 **The genetic basis of flower color transitions in *Ipomoea***

R.A.Zufall & M.D.Rausher. Duke University

9:00 35 **Molecular evolution and quantitative variation in the chemosensory signal transduction pathway in caenorhabditid nematodes**

P.C. Phillips & R. Jovelin. University of Oregon

9:15 36 **Molecular evolution of the HoxA cluster in the three major gnathostome lineages.**

C-h. Chiu, C. Amemiya, K. Dewar, Frank Ruddle, & Gunter Wagner. Rutgers University

9:30 37 **Recombination significantly increases genomic GC content**

J. A. Birdsell. University of Arizona

## Saturday June 29 AM, continued

9:45 38 **Molecular evolution at mutation-selection-drift equilibrium in the bacteriophage phi6**

D. Weinreich, D. Hartl, & L. Chao. Harvard University

*Session Moderator: David Remington*

10:30 39 **Genomic insights into AUX/IAA gene family evolution in *Arabidopsis***

D.L. Remington, T.J. Vision, & J.W. Reed. North Carolina State University

10:45 40 **Experimental evolution of gene duplicates**

A. K. Holloway. University of Texas, Austin

11:00 41 **Evolution of a phytochrome gene pair in *Arabidopsis* ecotypes**

K. McBreen & S. Mathews, University of Missouri

11:15 42 **Molecular evolution of the insect chemoreceptor superfamily in the *Drosophila melanogaster* and *Anopheles gambiae* genomes**

H.M. Patch & H.M. Robertson, University of Illinois at Urbana-Champaign

11:30 43 **The codon-degeneracy model: a generally applicable measure of departure from random expectations based on patterns of codon degeneracy**

D. A. McClellan. Brigham Young University

11:45 44 **Functional evolution of JGW**

J. Zhang, A. Dean, A. Llopart, & M. Long. The University of Chicago

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### *Invertebrate Phylogenetics & Systematics 1*
### *Greg 112*

*Session Moderator: Eric Larsen*

8:30 45 **Phylogenetics of giant water bugs (Belostomatidae): does size matter?**

E. Larsen. University of Chicago

8:45 46 **Phylogeny of the Nicrophorinae (Coleoptera: Silphidae): Evidence from morphological and mtDNA data***

D. Sikes. University of Connecticut

9:00 47 **Phylogenetics of Trigynaspida (Acari: Mesostigmata): morphology, molecules, and hosts***

C-M. Kim. Ohio State University

9:15 48 **Cophylogeny of parasitoid wasps and their symbiotic polydnaviruses**

A. Michel-Salzat & J.B. Whitfield. University of Illinois, Urbana-Champaign

9:30 49 **CAD: A new nuclear coding gene for addressing rapid Mesozoic divergences**

J. K. Moulton & B. M. Wiegmann. North Carolina State University

9:45 50 **The systematics of Australian *Daphnia* and *Daphniopsis*: a shared phylogenetic history with varying rates of molecular evolution**

J. Colbourne, C. Wilson, & P.D.N. Hebert. Indiana University

*Session Moderator: David Marshall*

10:30 51 **Rapid and convergent evolution of acoustic sexual signals in New Zealand cicadas**

D. C. Marshall. University of Connecticut

10:45 52 **Molecular systematics and evolution of dung beetles**

A.P. Vogler, D. Inward, J. Mate, C. Wilsher. The Natural History Museum, London

11:00 53 **Time flies: A revised time scale for fly evolution**

B. M. Wiegmann, D. K. Yeates, J. Thorne & H. Kishino. North Carolina State University

11:15 54 **Mummy fleas on modern trees: A phylogeny of the *Pulex irritans/simulans* species complex**

K. Dittmar de la Cruz & M. Whiting. Brigham Young University, Zoology

11:30 55 **Systematics of the Zoantharia (Cnidaria:Anthozoa)**

M. Daly & D.G. Fautin. University of Kansas

11:45 56 **Evolutionary history of the branchiopod Crustacea**

J. deWaard, V. Sacherova, M. Cristescu, E. Remigio, T. Crease, & P. Hebert.University of Guelph

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### *Vertebrate Phylogeography / Geographic Variation*
### *Greg 100*

*Session Moderator: Kevin Rowe*

8:30 57 **Mitochondrial phylogeography of western lowland gorillas (*Gorilla gorilla gorilla*)**

N. Anthony, S. Clifford, M. Johnson-Bawe, K. Abernethy, L. White, K. Jeffery, C. Tutin, J. Wickings and M. Bruford. Cardiff University, Wales

8:45 58 **Congruent and independent phylogeographic patterns in two eastern North American frogs (*Pseudacris crucifer* and *Rana catesbeiana*)**

J. Austin, P. Boag, & S. Lougheed. Queen's University

9:00 59 **Looking back in time through the mitochondrial DNA kaleidoscope: Origin and demographic history of a bull trout (*Salvelinus confulentus*) and dolly varden (*Salvelinus malma*) hybrid zone**

A.E. Elz & EB Taylor. University of British Columbia

9:15 60 **Phylogeographic support for the importance of rivers as dispersal corridors in eastern chipmunks**

K.C. Rowe, K.N. Paige, & E.J. Heske. University of Illinois at Urbana-Champaign

9:30 61 **Genetic variability and biogeographic patterns in the Andean condor (*Vultur gryphus*)**

S. Hendrickson. University of Wisconsin

9:45 62 **Drainage evolution and phylogeographic diversification in eastern north american plethodontid salamanders**

K.H Kozak & A. Larson. Washington University

*Session Moderator: James Novak*

10:30 63 Moved to Tuesday, July 2 PM (see page 38).

10:45 64 **Evolutionary dynamics of organismal form among populations of white-tailed deer**

J.M.Novak & M. H. Smith. Savannah River Ecology Lab

11:00 65 **Using Geographic Information Systems (GIS) and phylogenetics to understand species distribution patterns**

L. Rissler, University of California, Berkeley

11:15 66 **Monkeys and toads define areas of genetic endemism on the island of Sulawesi, Indonesia.**

B. J. Evans, J. Supriatna, D. C. Cannatella, & D. J. Melnick. Columbia University

11:30 67 **A comparative analysis of population structure in caribbean *Anolis* lizards**

R. Glor, R. Powell & A. Larson. Washington University

11:45 68 **Comparative phylogeography of the Madrean Archipelago: historical habitat connectivity and genetic variation in sky island reptiles**

K. R. Zamudio, H. W. Greene, & A. M. Wieczorek. Cornell University

# Saturday June 29 PM

## *Evolution Education Symposium*

### *Teaching Socially Relevant Examples of Evolution*
*Foellinger*

*Organizer: Michael Antolin*

1:15-1:30 69 **Recent events in science education**

M. Antolin. Colorado State University

1:30-2:00 70 **Overview: Where knowledge of evolution is applied in society**

H. Wichman. University of Idaho

2:00-2:30 71 **Evolutionary application in biotechnology**

J. Bull. University of Texas, Austin

2:30-3:00 72 **Teaching tree thinking with forensic applications**

J. Herron. Department of Zoology, University of Washington

3:30-4:00 73 **Agriculture, biogeography, and origins of genetic variation**

M. Antolin. Colorado State University

### *Education*
*Foellinger*

*Session Moderator: Jennifer Hurley O'Hara*

4:00 74 **Teaching about Evolution**

M. Condon & J. Hurley O'Hara (co-presenters). Cornell College

4:15 75 **Teaching about Evolution**

M. Condon & J. Hurley O'Hara (co-presenters). Cornell College

4:30 76 **Evolution labs and hands-on experiences across a college curriculum**

B. Brodman. Saint Joseph's College

### *Adaptation*
*Wohlers 141*

*Session Moderator: Daniel Heath*

1:15 77 **Rapid genetic divergence among salmon populations at functional marker loci relative to neutral loci**

D.D. Heath, R. Hepburn, S. Brode, & M. Docker. GLIER, University of Windsor

1:30 78 **Building 'em big and slow: alternative developmental mechanisms influence growth rate and swimming speeds in tadpoles**

J. D. Arendt. University of California, Riverside

1:45 79 **Antipredator adaptation in Colubrinae (Serpentes): integration of color pattern and body shape**

D. Creer. Washington University

2:00 80 **The genetics of adaptation: The distribution of fixed mutational effects on measurable traits is not generally exponential**

C.K. Griswold & M.C. Whitlock. University of British Columbia

2:15 81 **The power (or lack thereof) of regression approaches to detecting selection in natural populations**

E. Hersch & P.C. Phillips. University of Oregon

2:30 82 **Evolution of hypercarnivory: The effect of specialization on character change**

J. Holliday & S. Steppan. Florida State University

2:45 83 **Ecological specialization and adaptive decay in digital organisms**

E.Ostrowski, C.Ofria, & R. Lenski. Michigan State University

*Session Moderator: Jessica Wright*

3:30 84 **Local adaptation to serpentine soils in *Collinsia sparsiflora*: A story of morphology, phenology and physiology**

J. Wright, M. Stanton, R. Scherson & D. Thiede. University of California, Davis

3:45 85 **Introgression of possibly adaptive QTL across a species barrier in sunflower**

R. A. Randell, S.-C. Kim, & L. H. Rieseberg. Indiana University

4:00 86 **Cancelled**

4:15 87 **Phenotypic evolution in fossil sticklebacks and the form of adaptive landscapes**

M. Travis & M.A. Bell. SUNY Stony Brook

4:30 88 **Chance and necessity in molecular evolution: the genetic basis for adaptation in the long-term *E. coli* experiment***

R. Woods. Michigan State University

4:45 89 **The evolution of enucleated red blood cells in the salamander genus *Batrachoseps****

R. L. Mueller. Museum of Vertebrate Zoology, University of California, Berkeley

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## *Agriculture*
## *Natural History 228*

*Session Moderator: Johanne Brunet*

1:15 90 **Pathogens, frequency-dependent selection, and genetic polymorphisms: an experimental test**

J. Brunet & C. Mundt. Oregon State University

1:30 91 **How herbivores increase the cost of resistance to herbicide**

A. J. Gassmann. SUNY-Stony Brook

1:45 180 **Non-equilibrium cline models for *in-situ* manipulative studies of adaptation and dispersal**

A. H. Porter & M. B. Baker. University of Massachusetts-Amherst

2:00 93 **Associative nitrogen fixation in C4 grasses and the evolution of spittlebugs as sugar cane and pasture pests**

V. Thompson. Roosevelt University

2:15 94 **Evolutionary trends in *Polaskia chichipe* (Cactaceae) under domestication in the Tehuacan Valley, Central Mexico***

A. Otero, A. Casas, C. Bartolo, E. Perez-Negron, & A. Valiente. UNAM National University of Mexico

2:30 95 **Phylogeography of *Oryza sativa* using the Waxy gene: evidence on the origin of glutinous rice**

K. Olsen & M. Purugganan. North Carolina State University

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## *Mating Systems/Breeding Systems, Plants*
## *Natural History 228*

*Session Moderator: Barbara Mable*

3:30 96 **Self-incompatibility in polyploids: What happens in sporophytic systems?**

B.K. Mable. University of Guelph

3:45 97 **Mating systems in transition: transient self-incompatibility in *Leptosiphon jepsonii***

C. Goodwillie, K. L. Partis, & J. West. East Carolina University

4:00 98 **Hybridization and sex ratio evolution in *Nemophila menziesii****

C. M. Barr. University of California, Irvine

4:15 99 **Geographic structure of variation in pollinator communities and breeding system evolution in *Clarkia xantiana***

D. Moeller. Cornell University

4:30 100 **Fickle sex expression in selfing vs. outcrossing *Clarkia* species**

S. J. Mazer & V. A. Delesalle. University of California, Santa Barbara

4:45 101 **Cancelled**

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*Genomics 1*
*DKH 114*

*Session Moderator: Keith Adams*

1:15 102 **Differential and unequal expression of genes duplicated by polyploidy during the evolution of tetraploid cottons**

K. Adams, R. Cronn, & J. Wendel. Iowa State University

1:30 103 **Horizontally transferred genes in plant-parasitic nematodes**

E. H. Scholl, D. M. Bird & J. L. Thorne. North Carolina State University

1:45 104 ***Drosophila* and the evolution of transcription profiles**

C.D. Meiklejohn, J. Parsch, J.M. Ranz, & D.L. Hartl. Harvard University

2:00 105 **Evolutionary dynamics of rodent microsatellites**

M.I. Jensen-Seaman, C.-F. Chen, J. Lu, M.A. Thomas, S. Twigger, P.J. Tonellato, & H.J. Jacob. Medical College of Wisconsin

2:15 106 **Linkage disequilibrium around G6pd and the signature of malarial selection in humans**

M.A. Saunders, M.F. Hammer, & M.W. Nachman. University of Arizona

2:30 107 **Cancelled**

2:45 108 **Effects of Wolbachia on fecundity, longevity, and expression profiles in *D. melanogaster***

A.J. Fry & D.M. Rand. Brown University

*Session Moderator: Lindsey Dubb*

3:30 109 **Likelihood estimation of parameters of gene family evolution**

L. Dubb, & J. Felsenstein. University of Washington

3:45 110 **The genetic basis of reproductive isolation in house mice: differential introgression of markers on the X chromosome across a European hybrid zone**

B. A. Payseur & M. W. Nachman. University of Arizona

4:00 111 **Large scale duplicate gene expression in yeast and nematode**

Z. Gu, D. Nicolae, & W. Li. University of Chicago

4:15 112 **Exploring the human mutome: Sequence sensitive mutational biases across the human genome**

A. Platt. Harvard University

4:30 113 **Neighboring-nucleotide effects on single nucleotide polymorphisms (SNPs) in human genome**

Z. Zhao & E. Boerwinkle. University of Texas, Houston Health Science Center

4:45 114 **Genome wide rates of deletion in *Drosophila***

J. Blumenstiel, E. Lozovsky, & D. Hartl. Harvard University

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*Vertebrate Phylogenetics & Systematics 1*
*Greg 112*

*Session Moderator: Kevin Omland*

1:15 115 **Testing mitochondrial DNA phylogenies for closely related species: microsatellite data for ravens**

K. E. Omland, C. Feldman, J. Marzluff. University of Maryland Baltimore County

1:30 116 **New nuclear intron agrees with mitochondrial phylogeny: support for plumage convergence in orioles (*Icterus*)**

E. S. Allen, & K. E. Omland. Indiana University

1:45 117 **Cancelled**

2:00 118 **The evolution of migration in Motacillidae***

G. Voelker & D. C. Outlaw. Barrick Museum of Natural History

2:15 119 **Recent speciation and gene coalescence: The evolution of monophyly in New World orioles***

J. M. Baker & K. E. Omland. University of Maryland, Baltimore County

## Saturday June 29 PM, continued

2:30 120 **Patterns of speciation and continental affinities of antillean amazon parrots (Genus *Amazona*)**

M. Russello, R. DeSalle, & G. Amato. CU/ Wildlife Conservation Society

2:45 121 **Relative rates of molecular evolution in the avian mitochondrial cytochrome b gene: a reevaluation of the body mass correlation***

C. Witt. Louisiana State University

*Session Moderator: John Wiens*

3:30 122 **Paedomorphosis and higher-level salamander phylogeny**

J. J. Wiens. Carnegie Museum of Natural History

3:45 123 **Evolutionary ecology of the pharyngeal jaw polymorphism in the cichlid fish *Herichthys minckleyi***

D. Hulsey, D. Hendrickson, & F. García de León. University of California-Davis

4:00 124 **High-level molecular phylogeny of ray-finned fishes**

G. Orti and W-J. Chen. University of Nebraska

4:15 125 **Phylogenetic relationships among extant catfishes (Otophysi: Siluriformes): a report based on molecular data***

M. Hardman. Illinois Natural History Survey

4:30 126 **Phylogenetic relationships of labrid fishes: integration of molecular, morphological and functional data**

M. Westneat & M. Alfaro. Field Museum of Natural History

4:45 127 **Importance of highly incomplete fossil taxa for the study of zeomorph relationships (Teleostei, Pisces)***

F. Santini. University of Toronto

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### *Invertebrate Phylogeography / Geographic Variation*
### *Greg 100*

*Session Moderator: Cliff Cunningham*

1:15 128 **A research coordination network to study the historical ecology of the trans-Atlantic marine biota**

C. Cunningham. Duke Biology

1:30 129 **Phylogeography in a galling insect in the fragmented habitat of the US Southwest**

D. Downie. University of California, Davis

1:45 130 **Geographic morphological and genetic variation among populations of the leaf beetle *Chrysomela aeneicollis***

S. Fearnley, J. Lundblad, & N. Rank. Sonoma State University

2:00 131 **Phylogeography of the desert spider, *Agelenopsis aperta*: evolutionary inferences at the population species interface***

N. Ayoub. University of Tennessee, Knoxville

2:15 132 **Species radiation on islands: the bulimulid land snails of Galapagos**

C. Parent, & B.J. Crespi. Simon Fraser University

2:30 133 **Geographic scale of the X-drive interaction system in *Drosophila neotestacea***

K. Dyer & J. Jaenike. University of Rochester

2:45 134 **Historical biogeography of the western and mexican corn rootworms *Diabrotica virgifera virgifera* and *D.v. zeae***

R. Giordano, L. Clark & R. Alvarez-Zagoya. University of Vermont

*Session Moderator: Charles Ross*

3:30 135 **Population structure of *Drosophila mojavensis* based on microsatellite loci**

C.L. Ross, T.A. Markow. University of Arizona

3:45 136 **Effects of post-glacial range expansion on molecular and quantitative genetic variation in an intertidal copepod**

S. Edmands & J.S. Harrison. University of Southern California

4:00 137 **Geographic variation of anonymous rare-cutter restriction fragments in the American oyster, *Crassostrea virginica***

J.H. McDonald. University of Delaware

4:15 138 **Phylogeography of the marine bryozoan *Membranipora membranacea*: Assessing population history, dispersal routes and taxonomy**

H. R. Schwaninger. Agricultural Research Service, USDA

4:30 139 **Evolutionary genetics of invasive species**

Carol Eunmi Lee. University of Wisconsin, Madison

4:45 140 **Quantitative and molecular genetic patterns of hybrid incompatibility in the beetle *Tribolium castaneum***

J. Demuth & M. Wade. Indiana University

*Speciation 1*
*Mumford 103*

*Session Moderator: Jeffery Feder*

1:15 141 **Are "speciation" genes necessarily the holy grail for species phylogenies?**
J. Feder, D. Ortiz-Barrientos, M. Noor. University of Notre Dame

1:30 142 **Microvicariance and accelerated molecular diversification: crustaceans in desert springs**
J. Witt, D. Threloff, & P. Hebert. University of Guelph

1:45 143 **The geographical mosaic of speciation in pea aphids**
S. Via. University of Maryland

2:00 144 **Using AFLPs to reconstruct the history of speciation in *Laupala***
T. C. Mendelson & K. L. Shaw. University of Maryland

2:15 145 **The history of Pleistocene climate change in the American deserts revisited: Clocks, clades and biogeography in the longhorn cactus beetles***
C. I. Smith & B. D. Farrell. Harvard University

2:30 146 **Gamete recognition in hybridizing *Mytilus* populations: Toward a molecular test of reinforcement**
S. A. Springer, & B. J. Crespi. Simon Fraser University

2:45 147 **Are human head and body lice products of sympatric speciation?**
D. Reed and D. Clayton. Dept. of Biology, Univ. of Utah

*Session Moderator: Jeffery McKinnon*

3:30 148 **Ecology, body size and speciation in sticklebacks from five continents and islands**
J. S. McKinnon, S. Mori & D. Schluter. University of Wisconsin-Whitewater

3:45 149 **Impacts of predation on the fitness of sympatric sticklebacks and their hybrids**
S.M. Vamosi & D. Schluter. Department of Zoology, University of Toronto

4:00 150 **Genetic architecture of floral trait differences in dioecious *Silene* (Caryophyllaceae)**
A. Widmer & L.H. Rieseberg. Indiana University, Bloomington

4:15 151 **Cancelled**

4:30 152 **Hybrid speciation in yeast**
M. Travisano & D. Greig. University of Houston

4:45 153 **Host-associated genetic differentiation in the goldenrod elliptical-gall moth**
J. Nason, S. Heard, & F. Williams. Iowa State University

6:00–7:00 *Outreach Seminar • Foellinger*
**The importance of rapid evolution in health, agriculture and biotechnology**
Stephen R. Palumbi, Harvard University

# Sunday June 30 AM

*SSB Symposium*

*Networks: Visualizing Complex Phylogenetic Patterns*
*Natural History 228*

*Organizers: Sydney Cameron, James Whitfield, and Peter Lockhart*

8:20-8:30 154 **Introductory Remarks**

8:30-9:00 155 **An introduction to trees and networks**
D. Penny. Institute of Molecular Biosciences, Massey University

9:00-9:30 156 **Haplotype networks: New uses for an old technique**
A. Templeton. Washington University

9:30-10:00 157 **Phylogeography of leaf beetles at different geographic scales**
P. Mardulyn. Free University of Brussels

10:00-10:30 **Break**

10:30-11:00 158 **Representing complex evolutionary relationships with median networks**
K. Huber. Swedish University of Agricultural Sciences

11:00-11:30 159 **Phylogenetic networks: splits-graphs and beyond**
V. Moulton. Uppsala University

11:30-12:00 160 **Neighbor-Net**
D. Bryant. McGill University

*Comparative Biology*
*Wohlers 141*

*Session Moderator: Manda Clair Jost*

8:30 161 **Phylogeny, ontogeny, and parallel evolution in silent crickets (Orthoptera)**
M.C. Jost, & K.L. Shaw. Harvard University

8:45 162 **Multivariate analyses of comparative data**
F. J. Rohlf. SUNY Stony Brook

9:00 163 **Evolution of A4-lactate dehydrogenase in warm-stenothermal environments: investigating biochemical adaptation in damselfishes (Pomacentridae)**
G. C. Johns & G. N. Somero. Stanford University

9:15 164 **New evidence concerning avian digit homology**
H. Larsson & G. Wagner. University of Toronto /Yale University

9:30 409 **Ontogeny and evolution in marsupial and placental mammals: Testing constraints**
K. Sears. University of Chicago

9:45 166 **Discordant evolution of scapula shape and forelimb function in squirrels**
D. L. Swiderski. University of Michigan

*Macroevolution*
*Wohlers 141*

*Session Moderator: Christopher Mah*

10:30 167 **A cladistic analysis of the Goniasteridae (Asteroidea; Echinodermata): Phylogeny, fossils,and biogeography***
C. Mah. Geology Dept. University of Illinois at Urbana-Champaign

10:45 168 **Morphological modularity and macroevolution: from organism to morphospace**
G. Eble. KLI, Austria / CNRS, France

11:00 169 **Homologous structures in the male genitalia of therevine stiletto flies**
M. A. Metz. University of Illinois at Urbana-Champaign

11:15 170 **A null model of morphospace occupation**
M. R. Pie & J. S. Weitz. Department of Biology, Boston University

11:30 171 **Grass evolution: new insights using molecules and fossils***
N. Salamin, T. R. Hodkinson, & V. Savolainen. Trinity College

11:45 172 **Macroevolutionary patterns of adaptive radiation using four iguanian lizard clades**
J. A. Schulte II, L. J. Harmon, & J. B. Losos. Smithsonian Institution

*Ecological Genetics 1*
*Bevier 180*

*Session Moderator: Michael Bell*

8:30 173 **Twelve years of rapid evolution in a threespine stickleback population**
M.A. Bell, W.E. Aguirre, & N.J. Buck. Ecol. & Evol., SUNY Stony Brook

8:45 174 **Identification of QTL that affect oral jaw morphology in cichlid fishes**
C. Albertson. University of New Hampshire

9:00 175 **Cancelled**

9:15 176 **Divergence for thermal performance and thermal preference among natural isolates of the nematode, *C. elegans***
C. Peden & P.C. Phillips. University of Oregon

9:30 177 **Physiological and survival consequences of PGI variation in a montane leaf beetle**
E. Dahlhoff, D. McMillan, & N. Rank. Santa Clara University

9:45 178 **Why are ecological replacement species so similar?**
T. Hrbek. University of Konstanz

*Session Moderator: Nathan Rank*

10:30 179 **Shifts in PGI frequency after climate change in a montane insect**
N. Rank & E. Dahlhoff. Sonoma State University

10:45 92 **Genetics and physiology of drought adaptation in *Arabidopsis thaliana*: natural variation, QTL, NILs and transformants**
J. K. McKay, J. H. Richards, & T. Mitchell-Olds. University of California, Davis

11:00 181 **Local and global phylogeography of host use in an introduced parasitoid wasp**
C. Baer & M. Antolin. Indiana University

11:15 182 **On a genetic model of intraspecific competition and stabilizing selection**
R. Burger. University of Vienna

11:30 183 **Disease ecology of *Escovopsis*, a co-evolved pathogen of fungus-growing ant symbioses***

N. Gerardo, U. Mueller, & C. Currie. University of Texas

11:45 184 **Enormous populations and ancient species of Neotropical frogs inferred from DNA sequence data**

A. J. Crawford. Smithsonian Tropical Research Institute

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*Life History Evolution*
*Mumford 103*

*Session Moderator: Hugh Dingle*

8:30 185 **Evolution on a fast track: genetic architecture of host induced adaptations in a seed bug (*Jadera hematoloma*)**

H. Dingle, S.P. Carroll, & T.R. Famula. University of California, Davis

8:45 186 **The effect of juvenile body size on adult success of an acanthocephalan parasite**

M. L. Steinauer. University of Nebraska, Lincoln

9:00 187 **Analysis of pleiotropic fitness effects at the insulin receptor locus**

M.R. Palmer, D.M. Rand, & M. Tatar. Brown University

9:15 188 **Multiple trait selection in *Drosophila*: Simultaneous evolution of faster development and elongated life span**

N. G. Prasad, M. Shakarad, M. Rajamani, & A. Joshi. Jawaharlal Nehru Centre for Adv Scientific Res

9:30 189 **Evolution of late-life fecundity**

C. Rauser, J. Tierney, S. Gunion, L. Mueller, & M. Rose. University of California, Irvine

*Session Moderator: David Reznick*

10:30 190 **Death III: The evolution of senescence in guppies—the final episode?**

D. Reznick & D. Elder. Department of Biology, University of California, Riverside

10:45 191 **Local adaptation of offspring size in the Trinidadian guppy: The role of competition**

F. Bashey. University of California, Riverside

11:00 192 **Evolution of clutch size in tropical birds: correlative and experimental evidence**

J. Brawn & J. Nesbitt. University of Illinois / Illinois Natural History Survey

11:15 193 **Precociality and developmental rate**

M. L. Zelditch, B. L. Lundrigan, & H. D. Sheets. University of Michigan

11:30 194 **Modeling host-parasite coevolution using a nested set of mechanistic models**

M. A. Gilchrist & A. Sasaki. Dept. of Biology, University of New Mexico

11:45 195 **Evolution and environmental interactions of life history traits in resynthesized polyploid *Brassica napus***

E. Schranz, L. Lukens, & T. Osborn. University of Wisconsin, Madison

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*Molecular Evolution 2*
*DKH 114*

*Session Moderator: David Pollock*

8:30 196 **Likelihood analysis of asymmetrical mutation bias in mitochondrial genomes**

J.J. Faith & D.D. Pollock. Louisiana State University

8:45 197 **Genomic biodiversity in squamate mitochondria**

F. Burbrink, J. Faith, & D. Pollock. Louisiana State University

9:00 198 **Accelerated mtDNA rate in brood parasitic finches: a case of nearly neutral evolution?**

C.N. Balakrishnan, D. Mercer, M.D. Sorenson. Boston University

9:15 199 **Molecular evolution of Eeyore and nine other human genes derived from Tigger/pogo**

H. Robertson, B. Williams, K.K.O. Walden, & D. Witherspoon. University of Utah

9:30 200 **Adaptive evolution of electron transport chain genes in anthropoid primates**

D.E. Wildman, J.W. Doan, A. Goldberg, M. Hüttemann, T.R. Schmidt, M.H. Yu, M. Goodman, & L.I. Grossman. Wayne State University

9:45 201 **Rapid evolution in the photosensory domain of phytochrome A in early angiosperms**

S. Mathews, J. G. Burleigh, & M. J. Donoghue. University of Missouri-Columbia

*Session Moderator: William Bradshaw*

10:30 202 **Climate affects rates of molecular evolution**

W. Bradshaw. University of Oregon

10:45 203 **The evolution of introns**

M. Lynch. Indiana University

11:00 204 **Cytonuclear coadaptation in *Drosophila*: disruption of cytochrome oxidase activity in backcross genotypes**

T. B. Sackton & D. M. Rand. Brown University

11:15 205 **Evolution of mitochondrial gene rearrangement in Bivalvia (Mollusca): an examination of phylogenetic signal and evolutionary models**

J.M. Serb. University of Alabama

11:30 206 **Evidence for gene conversion in the evolution of luciferases in bioluminescent click beetles of the genus *Pyrophorus* (Coleoptera: Elateridae).**

S. Velez, U. Stolz, J. Feder. University of Notre Dame

11:45 207 **An experimental test of the codon bias hypothesis**

D. Carlini & W. Stephan. American University

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*Phylogeography / Geographic Variation 1*
*Greg 100*

*Session Moderator: Tasha Belfiore*

8:30 208 **The phylogeography of Channel Island spotted skunks (*Spilogale gracilis amphiala*): an mtDNA assessment**

N. M. Belfiore, D. VanVuren, K. Crooks, & J. A. DeWoody. Purdue University

8:45 209 **Not sampled but influent: missing haplotypes and the phylogeography of dusky dolphins (*Lagenorhynchus obscurus*)**

I. Cassens, K. Van Waerebeek, P. B. Best, E. A. Crespo, J. Reyes, M. C. Milinkovitch. Free University of Brussels

9:00 210 **Phylochronology of an endemic tuco tuco species**

M. van Tuinen, Y. Chan, & E. A. Hadly. Stanford University

9:15 211 **Phylochronology: Population genetics through space and time**

E. Hadly, M. van Tuinen, & C. Conroy. Stanford University

9:30 212 **Cancelled**

9:45 213 **Andean phylogeography in the *Phyllotis darwini* species group (leaf-eared mice) and identification of an 11,700 year old packrat midden**

S. Steppan, M. Kuch, C. Lattore, A. Spotorno, & H. Poinar. Florida State University

*Session Moderator: Lynn Anderson*

10:30 214 **A molecular-genetic approach to understanding the migration history of *Picea* (spruce) in North America**

L.L. Anderson, F.S. Hu, & K.N. Paige. University of Illinois at Urbana-Champaign

10:45 215 **Evolutionary biogeography of the Hawaiian endemic *Lipochaeta* (Asteraceae)**

S. Jorgensen. Ohio University

11:00 216 **Did admixture among glacial refugial populations create the center of diversity in *Pinus resinosa*?**

R. Walter. Michigan State University

11:15 217 **Genetic diversity among insular populations of white pine, *Pinus strobus***

E. R. Myers. Michigan State University

11:30 218 **Testing the hypothesis of multiple lineages within *Trimorphodon biscutatus* using morphometric and mitochondrial DNA sequence data***

T. Devitt. Louisiana State University

11:45 219 **Population structure and history of *Rana blairi*, the Plains Leopard Frog**

Y. Alva, E. J. Routman, & S. Masta. San Francisco State University

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*Speciation 2*
*Greg 112*

*Session Moderator: Irby Lovette*

8:30 220 **Contrasting patterns of diversification in temperate and tropical bird radiations**

I. J. Lovette. Cornell University

8:45 221 **Evolution of microsatellites in an adaptive radiation of Hawaiian honeycreepers**

L.S. Eggert, A. McClung, J. Beadell, & R. Fleischer. Smithsonian Institution

9:00 222 **Molecular evolution in the groupers and coraltrouts***

J. Carlin. University of Florida

9:15 223 **Speciation in the water lily *Nymphaea odorata* (Nymphaeaceae): A molecular and morphological analysis of North American populations***

K. Niehaus, K.W. Hilu, T. Borsch, & J. Wiersema. Virginia Polytechnic Institute and State University

9:30 224 **Evolution of post-zygotic isolation in allopatry: functional evidence for cytonuclear coadaptation**

R. S. Burton. Scripps Institution of Oceanography

9:45 225 **Genetic analysis of hybrid lethality in *Drosophila***

D. Presgraves. University of Rochester

*Session Moderator: Stephen Palumbi*

10:30 226 **How mutation and selection drive the evolution of gamete recognition genes**

S.R. Palumbi. Harvard University

10:45 227 **Evolutionary analysis of reproductive proteins in *Allonemobius***

W.E. Braswell, W.J. Swanson, & D.J. Howard. New Mexico State University

11:00 228 **Both protein and carbohydrate structures ensure species-specific fertilization in sea urchins**

C. H. Biermann. Harvard University

11:15 229 **Odorant-binding proteins of *Rhagoletis***

K. M. M. Ramsdell, S. H. Berlocher, & H. M. Robertson. University of Illinois at Urbana-Champaign

11:30 230 **Host-plant adaptation drives the parallel evolution of reproductive isolation**

P. Nosil, B.J. Crespi, & C. Sandoval. Dept. of Biosciences, Simon Fraser University

# Sunday June 30 PM

## *SSB Symposium*

### *Untangling Coevolutionary History*
### *Foellinger*

*Organizers: Kevin P. Johnson and Dale H. Clayton*

1:15-1:30 231 **Untangling cophylogenetic patterns**

K. P. Johnson. Illinois Natural History Survey

1:30-2:00 232 **Cospeciation of mutualistic bacteria and their ant hosts: Molecular evolution of *Camponotus* endosymbionts**

J. Wernegreen, P. H. Degnan, & A. B. Lazarus. JBP Center, Marine Biological Lab

2:00-2:30 233 **Evolutionary relationships and host switching in avian malaria parasites**

R. E. Ricklefs & S. M. Fallon. University of Missouri–St. Louis

2:30-3:00 234 **The origin and maintenance of a coevolved mutualism**

G. Weiblen. University of Minnesota

3:30-4:00 235 **Coevolution of the brood parasitic finches (*Vidua* spp.) and their estrildid hosts**

M. D. Sorenson & R. B. Payne. Boston University

4:00-4:30 236 **Biogeography explains cophylogenetic patterns in toucan lice**

J. Weckstein. Louisiana State University

4:30-5:00 237 **The ecological basis of coevolutionary history**

D. H. Clayton, S. Al-tamimi, & K. P. Johnson. University of Utah

## *Conservation Biology 1*
## *Natural History 228*

*Session Moderator: Jason Koontz*

1:15 238 **Host preferences and genetic diversity in the Illinois-threatened *Agalinis auriculata* (Scrophulariaceae)**

J. Koontz, B. Molano-Flores, M. A. Feist, & C. Whelan. Illinois Natural History Survey

1:30 239 **Effective population size and genetic drift in the clonal, self-incompatible plant *Hymenoxys herbacea***

L.G. Campbell & B.C. Husband. Ohio State University

1:45 240 **Genetic diversity of two cedar glade perennials with disjunct populations, *Astragalus tennesseensis* and the federal endangered *Dalea foliosa***

A. Edwards, B. Wiltshire, & D. Nickrent. Illinois Natural History Survey

2:00 241 **Seed bank recruitment and its influence on population genetic structure of a regionally endangered prairie annual**

S. Lyons-Sobaski, S. Berlocher, & J. Beever. University of Illinois at Urbana-Champaign

2:15 242 **Comparing traits in introduced invasive and non-invasive Asteraceae, from regions of origin and introduction**

N.Z. Muth & M. Pigliucci. University of Tennessee

2:30 243 **Arizona cliffrose and the hybrid swarm: Does genetic isolation reflect adaptive variation?**

S. Travis, J. Baggs, & J. Maschinski. USGS National Wetlands Research Center

2:45 244 **Conservation of genetic diversity in american ginseng under harvest pressure**

J. M. Cruse-Sanders & J. L. Hamrick. University of Georgia

*Session Moderator: Cam Muir*

3:30 245 **Conservation implications of hybridization in Hawaiian picture wing *Drosophila***

C. Muir, S. Moore, & D.K. Price. University of Hawai'i at Hilo

3:45 246 **Go west, young cyprid? Molecular markers, mean dispersal distance, and functional marine reserves**

E. Sotka & S. Palumbi. Harvard University

4:00 247 **Reconstructing the history of global dispersal in *Dreissena bugensis*, an invasive bivalve, using microsatellite markers**

T. Therriault. GLIER, Univ. of Windsor

4:15 248 **Effects of population size, environment, and pathogen resistance on fitness and extinction**

D. Dinh & M. Travisano. University of Houston

4:30 249 **A cryptic species complex of gall wasps (Hymenoptera: Cynipidae: *Antistrophus* spp.) feeding in prairie perennials (Asteraceae: *Silphium* spp.)**

J. F. Tooker & L. M. Hanks. Dept. of Entomology, University of Illinois at Urbana-Champaign

4:45 250 **Demographic genetics of northern red oak and shumard oak from Indiana old growth forest**

P. Aldrich, G. Parker, C. Michler, & J. Romero-Severson. USDA Forest Service / Purdue University

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## *Evolution of Microorganisms*
## *Wohlers 141*

*Session Moderator: Vaughn Cooper*

1:15 251 **Evolutionary ecology of virulence traits in *Vibrio cholerae***

V. Cooper. University of Michigan

1:30 252 **Pathoadaptive variation in *E. coli*: recent, recurrent, and recombinant**

M. Feldgarden, E. Sokurenko, & D. E. Dykhuizen. Dept. of Ecology & Evolution, SUNY Stony Brook

1:45 253 **Experimental evolution in extreme environments: Long-term evolution of *E. coli* under UV stress**

R. Goldman & M. Travisano. University of Houston

2:00 254 **Evolution of expanded host range in bacteriophage of *Bacillus*: correlations with host range breadth and host phylogeny**

G. Krukonis & F. Cohan, Wesleyan University

2:15 255 **Trade-offs between niche breadth and resistance to predation in *E. coli***

M. Quance & M. Travisano. University of Houston

2:30 256 **The tempo of experimental evolution.**

F. B.-G. Moore. University of Akron

2:45 257 **Ancient polymorphism and adaptive evolution in the trichothecene mycotoxin gene cluster of phytopathogenic *Fusarium***

T. Ward, J. Bielawski, H. Kistler, E. Sullivan, and K. O'Donnell. USDA

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## *Phenotypic Plasticity & GxE*
## *Wohlers 141*

*Session Moderator: Joe Hereford*

3:30 258 **Environmental dependence of environmental maternal effects in an annual plant, *Diodia teres***

J. Hereford & K. Moriuchi. Florida State University

3:45 259 **Ecological and evolutionary implications of overcompensation in plants: the importance of nutrient level**

J. Banta, W. Denning, & M. Pigliucci. University of Tennessee

4:00 260 **Phenotypic plasticity and integration in *Arabidopsis***

M. Pigliucci & A. Kolodinska. University of Tennessee

4:15 261 **Environmental heterogeneity and plasticity of maternal provisioning: A case study in *Amphicarpaea bracteata***

A.M. Wilczek & F.A. Bazzaz. Harvard University

4:30 262 **Social stress and selective consequences of plasma corticosterone in female lizard morphs**

T. Comendant, B. Sinervo, E. Svensson, & J. Wingfield. University of California, Santa Cruz

4:45 263 **Does it cost you?: Morphological plasticity versus genetic divergence across different levels of trophic polymorphism of *Lepomis gibbosus***

K. Parsons & B.W. Robinson. University of Guelph

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## *Hybridization I*
## *Mumford 103*

*Session Moderator: Jason Rauscher*

1:15 264 **Multiple origins of several hybrid lineages in the *Glycine tomentella* (Leguminosae) allopolyploid complex: evidence from nuclear and chloroplast sequence data**

J.T. Rauscher, J.J. Doyle, & A.H.D. Brown. Cornell University

1:30 265 **Hybridization in small populations of red mulberry (*Morus rubra L.*): molecular and morphological evidence**

K. S. Burgess & B. C. Husband. University of Guelph

1:45 266 **Short and long term consequences of hybridization in *Avena barbata****

A.D. Johansen & R.G. Latta. Dalhousie University

2:00 267 **The origin of ecological divergence in *Helianthus paradoxus* (Asteraceae): selection on transgressive characters in a novel hybrid habitat**

C. Lexer, M. Welch, O. Raymond, & L. H. Rieseberg. Indiana University

2:15 268 **Integrating morphology and phylogeography in the study of hybridization: chipmunks (*Tamias*) in the Northern Rocky Mountains***

J. Good, J. Demboski, D. Nagorsen, & J. Sullivan. University of Idaho

2:30 269 **Molecular evidence for gene flow between species of *Heliconius***

V.Bull, M.Beltran, E.Bermingham, C.Jiggins, & J.Mallet. University College London

2:45 270 **Possible barriers to gene exchange in hybridizing field crickets (*Gryllus*)**

G. Hume & R. Harrison. Cornell University

*Session Moderator: Laura Reed*

3:30 271 **Early events in speciation: polymorphism for hybrid male sterility factors**

L Reed & T. Markow. University of Arizona

3:45 272 **Speciation via hybridization in a bisexual animal?—*Rhagoletis* hybrids colonize introduced honeysuckle**

D. Schwarz. Pennsylvania State University

4:00 273 **Hybridization and speciation in water fleas**

D. J. Taylor. University at Buffalo, SUNY

4:15 274 **Immortal mules: hybridization and speciation in Caribbean corals**

S. V. Vollmer & S. R. Palumbi. Harvard University

4:30 275 **Movement, climate, and evolution in the *Allonemobius fasciatus—A. socius* mosaic hybrid zone.**

S.C. Britch & D.J. Howard. New Mexico State University

4:45 276 **The relevance of cryptic *Daphnia* species**

M. A. Duffy, A. J. Tessier, & M. Kosnik. Kellogg Biological Station/Michigan State University

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## *Mating/Breeding Systems*
## *DKH 114*

*Session Moderator: John Cooler*

1:15 277 **Sex roles in cicada pair formation**

J. Cooley, The University Of Connecticut

1:30 278 **Evolution of ant polyandry and the single male***

A. S. Mikheyev. Florida State University

1:45 279 **Evolution of contact chemoreception in longhorned beetles (Cerambycidae: Coleoptera)**

M.D. Ginzel & L.M. Hanks. University of Illinois at Urbana-Champaign

2:00 280 **Whole brood mortality increases the opportunity for female-biased sex ratios under local mate competition**

S. Freedberg. Indiana University

2:15 281 **Selection on mating system inferred from a *Mimulus* hybrid zone**

J. Dole. University of Tennessee

2:30 282 **The influence of *Mimulus ringens* floral display size on selfing rates and patterns of paternity**

J. Karron, R. Mitchell, K. Holmquist, & J. Bell. University of Wisconsin, Milwaukee

2:45 283 **The evolution of the Tasselseed2 gene in the grass genus *Bouteloua***

M. S. Kinney & E. A. Friar. Rancho Santa Ana Botanic Garden

*Session Moderator: Laura Geyer*

3:30 284 **Where have all the hybrids gone? Cryptic female choice in tropical sea urchins***

L.B. Geyer & S.R. Palumbi. Harvard University

3:45 285 **The evolution of androgenesis, the production of offspring carrying only paternal genes**

M.J. McKone & S.L. Halpern. Carleton College

4:00 286 **Hybridization and male parental investment in eutherian mammals***

C. Welch, R. Pierotti, & D.S. Pennock. University of Washington

4:15 287 **Molecular evolution of the hominoid semenogelin genes**

M.I. Jensen-Seaman & W.-H. Li. Medical College of Wisconsin

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## *Vertebrate Phylogenetics & Systematics 2*
## *Greg 112*

*Session Moderator: Michael Smith*

1:15 288 **Molecular evolution and systematics of *Mazama* and *Odocoileus* in the Yucatan**

M. Smith, J. Purdue, & T. Oleksykt. Savannah River Ecology Lab

1:30 289 **Evolution of aposematism in dendrobatid frogs**

D. Cannatella, L. Coloma, & J.C. Santos. University of Texas

1:45 290 **Molecular phylogeny and biogeography of Ranoidea (Amphibia, Anura)**

F. Bossuyt, R. Brown, D.M. Hillis, M.C. Milinkovitch, & D.C. Cannatella. Free University of Brussels

2:00 291 **Systematics of North American bufonid toads: nuclear versus mitochondrial inferences**

S. Masta & E. Routman. San Francisco State University

2:15 292 **SE Asian forest frog phylogeny (genus *Platymantis*) and a comparison of parsimony, likelihood, and Bayesian methods of inference***

R. M. Brown. University of Texas at Austin

2:30 293 **The phylogenetic history of the *Anolis cristatellus* group: a morphological and molecular analysis using frequency parsimony and maximum likelihood methods***

M. Brandley & K. de Queiroz. San Diego State University

2:45 294 **Limb loss in scincid lizards: a comparison of character optimization methods**

A.S. Whiting, J.W. Sites, & A.M. Bauer. Brigham Young University

*Session Moderator: Conrad Matthee*

3:30 295 **Molecular phylogenetics of the African mole-rat genus *Cryptomys*: Species designations and patterns of chromosomal evolution***

C. Ingram, H. Burda, & R. L. Honeycutt. Texas A&M University

3:45 296 **Molecular evolution of the Lagomorpha: total evidence derived from nuclear and mtDNA data.**

C.A. Matthee, D. Bell, & T.J. Robinson. Stellenbosch University

4:00 297 **The silent sites are talking to us—should we be listening?**

R. W. DeBry. University of Cincinnati

4:15 298 **The position of the Geomyoidea and Castoroidea within Rodentia: evidence from complete mitochondrial genome sequences***

L. Frabotta & R. Honeycutt. Texas A&M University

4:30 299 **Phylogeny of mysticete whales based on mitochondrial and nuclear sequence data***

A. Rychel, T. Reeder, & A. Berta. San Diego State University

*Population Genetics 1*
*Greg Hall 100*

*Session Moderator: Stephen Proulx*

1:15 300 **Metapopulation structure favors reduced mutation repair**
S. R Proulx, & F. R. Adler. University of Oregon

1:30 301 **Notes on the simulation of evolution**
W. Atmar. AICS Research, Inc. & The Field Museum, Zoology

1:45 302 **Invasion genetics of a prolific, voracious predator: Comparison of genetic structure with colonization history**
R. Colautti, D. Heath, H. MacIsaac. Great Lakes Institute, University of Windsor

2:00 303 **Population dynamics of an enigmatic host/symbiont interaction in east Africa: *Drosophila simulans* and *Wolbachia* sp.***
M. Dean, K. J. Ballard, A. Glass, & J. W. O. Ballard. University of Iowa

2:15 304 **The evolution of cold tolerance**
P. Zani. University of Oregon

2:30 305 **Microsatellite and mtDNA based population genetic structure of blind mole rats in Israel**
P. Karanth, A. Avivi, & E. Nevo. State University of New York

2:45 306 **Global pattern of human DNA sequence variation in non-coding regions**
N. Yu & W.-H Li. University of Chicago

*Session Moderator: Hopi Hoekstra*

3:30 307 **The functional role of adaptive nucleotide variation in pocket mouse coat color**
H.E. Hoekstra & M.W. Nachman. University of Arizona

3:45 308 **Species or host races? Spatial and temporal genetic structure of brood parasitic Indigobird populations**
K. M. Sefc, R. B. Payne, & M. D. Sorenson. Boston University, Dept. of Biology

4:00 309 **Natural selection on protein polymorphism in rodents: evidence from interlocus contrasts**
J. F. Storz. University of Arizona

4:15 310 **Genetic variation in sexual and hybrid parthenogenetic geckos of the *Heteronotia binoei* complex**
J. Strasburg. Washington University

4:30 311 **Molecular population genetics of human visual pigment genes**
B.C. Verrelli & S.A. Tishkoff. University of Maryland

4:45 312 **Long distance linkage disequilibrium in the Han Chinese and mixed Amerindian populations**
K. Mather, M. President, S. Easteal, J. Hollenbach, W. Klitz, G. Huttley, & G. Thomson. University of California, Berkeley

# Monday, July 1 AM

*SSE Syposium*

*New Physiological Approaches to the Study of the Cost of Reproduction*
*Wohlers 141*

*Organizers: Anthony Zera and Lawrence Harshman*

8:05–8:15 313 **Introduction**

8:15–8:45 314 **Metabolic basis of the cost of reproduction: radiotracer and endocrine studies of lipid metabolism in a wing-polymorphic cricket**
A. Zera. University of Nebraska

8:45–9:15 315 **Love potions and poisons: *Drosophila* seminal proteins and the cost of mating**
M. Wolfner. Cornell University

9:15–9:45 316 **Cost of egg production in *Drosophila melanogaster***
L. Harshman. University of Nebraska

9:45–10:15 317 **Sexual dimorphism, sexual selection and the cost of reproduction: what population surveys and correlated responses to selection have revealed**
L. Delph. Indiana University

10:30–11:00 318 **Testosterone manipulations reveal physiological and fitness costs of increased territorial aggression in male lizards under field conditions**
C. Marler. University of Wisconsin, Madison

11:00–11:30 319 **Immunosupression as a cost of reproduction**
V. Apanius. Florida International University

11:30–12:00 320 **Nutrient bottlenecks during reproduction in laboratory and natural systems**
K. Hammond. University of California, Riverside

9:00-12:00 *Computer Workshop • Burrill 164 D/E*

**Visualizing complex phylogenic patterns with networks**

P. Lockhart, S. Cameron, & J. Whitfield. University of Illinois, Urbana-Champaign

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*Co-evolution*
*ASL 150*

*Session Moderator: May Berenbaum*

8:30 321 **Chemical phenotype matching in webworms and wild parsnips: coevolution or coincidence?**

M. Berenbaum & A. Zangerl. University of Illinois at Urbana-Champaign

8:45 322 **Flowering time and tolerance to defoliation in *Brassica rapa*: The evolution of civil defense as a correlated trait**

A.E. Weis, E.L. Simms, & K.A. Stowe. University of California, Irvine

9:00 323 **Adaptive dynamics: a theory of phenotypic trait evolution**

F. Jacobs. University of Tennessee

9:15 324 ***Pectinopygus*: heirlooms or souvenirs? Cophylogeny of the Pelecaniformes and their parasitic lice.**

M. Kennedy, K.P. Johnson, & R.D.M. Page. University of Glasgow

9:30 325 **Cancelled**

9:45 326 **Roosting habits of Neotropical bats affect prevalence, intensity and host specificity of parasitic bat flies**

C. W. Dick, B. D. Patterson, J. B. Bender, M. D. Dean & R. L. Wenzel. Texas Tech University

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*Species Interactions*
*ASL 150*

*Session Moderator: Joel Sachs*

10:30 327 **The evolution of cooperation: a perspective**

J.L. Sachs. University of Texas, Austin

10:45 328 **The role of ecological interactions as mechanisms of selection in evolution**

M. Devaraj, India

11:00 329 **Avian predators can maintain polymorphism in aposematic butterflies**

G. Langham. Cornell University

11:15 330 **Morphological consequences of interspecific competition between *Plethodon jordani* and *P. teyahalee* in the Great Smoky and Balsam Mountains**

D. C. Adams. Iowa State University

11:30 331 **Coevolution of deadly toxins and predator resistance: Behavioral modification of toxin exposure by a snake predator**

B. L. Williams, E. D. Brodie Jr., & E. D. Brodie III. Utah State University

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*Molecular Evolution 3*
*MSEB 100*

*Session Moderator: Amy Lawton-Rauh*

8:30 332 **Molecular evolution and population genetics of regulatory genes in an adaptive radiation**

A. Lawton-Rauh, R. H. Robichaux & M. D. Purugganan. North Carolina State University

8:45 333 **Analysis of high diversity genes in *Arabidopsis thaliana***

J. Cork, M. Purugganan. North Carolina State University

8:45 334 **The young and the recombinant: rapid generation of piscine MHC alleles revealed by intron/exon comparisons**

S. Cohen. Harvard University

9:00 335 **Expression of the rRNA gene family in *Tigriopus californicus*: biased transcription in inter-population hybrids**

J. Flowers & R. Burton. Scripps Institution of Oceanography, UCSD

9:15 336 **The evolution of nuclear and mitochondrial subunits of cytochrome c oxidase**

R. Haney & D. Rand. Brown University

9:45 337 **Molecular population genetics of light color polymorphism in the bioluminescent click beetle, *Pyrophorus plagiophthalamus* (Coleoptera: Elateridae)**

U. Stolz, S. Velez, & J. Feder. University of Notre Dame

*Session Moderator: Scott Harrison*

10:30 338 **Patterns of nucleotide diversity are shaped by mating system in *Mimulus***

A. L. Sweigart & J. H. Willis. Duke University

10:45 339 **Sphinx, a young chimeric RNA gene in *Drosophila melanogaster* and its unusual variation patterns in populations**

W. Wang, F. G. Brunet, K. Thornton, E. Nevo, & M. Long. University of Chicago

11:00 340 **Premeiotic clusters of mutation and the rate of substitutions: Is k = u?**

R. C. Woodruff & J. N. Thompson, Jr. Bowling Green State University

11:15 341 **Differences in methylation patterns between parental populations and backcross hybrids of the intertidal copepod *Tigriopus californicus***

J. S. Harrison & S. Edmands. University of Southern California

11:30 342 **Selection on a novel sperm protein within and among species of common blue mussels**

C. Riginos. Duke University

11:45 343 **Comparative molecular evolution of a Numt pseudogene in voles (Rodentia)***

D. A. Triant & J. A. DeWoody. Purdue University

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*Invertebrate Phylogenetics & Systematics 2*
*DKH 114*

*Session Moderator: Courtney Babbitt*

8:30 344 **Malacostracan phylogeny inferred from 18S and 28S rDNA***

C. Babbitt & N. Patel. University of Chicago

8:45 345 **Predicted geographic distributions aid taxonomic decisions within sea anemone genus *Actinodendron* (Anthozoa: Actiniaria)***

A. Ardelean. University of Kansas

9:00 346 **Cancelled**

9:15 347 **Polyphyly in a polytomy: a phylogenetic reassessment of *Thereva* Latreille (Insecta: Diptera: Therevidae)***

K. Holston, B. Weigmann, & M. Irwin. University of Illinois at Urbana-Champaign

9:30 348 **Phylogeny of mayflies and their position among the other winged insects**

T. H. Ogden & M. F. Whiting. Brigham Young University

9:45 349 **Song, sex and psyllid systematics**

D. Percy. CSIRO Entomology

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*Invertebrate Phylogenetics & Systematics 2*
*DKH 114*

*Session Moderator: Karen Ober*

10:30 350 **Phylogenetic relationships of the lebiomorph assemblage and the rapid radiation of the subfamily Harpalinae (Coleoptera: Carabidae)**

K. Ober & D. Maddison. University of Connecticut

10:45 351 **Phylogenetic analyses of the shallow-water Caribbean octocorals using mitochondrial DNA sequences (NADH-dehydrogenase subunits 2-6, and MSH) and morphological characters***

J. A. Sanchez, C. S. McFadden, S.C. France, & H. R. Lasker. University at Buffalo (SUNY)

11:00 352 **Morphology, mtDNA, and speciation patterns in Puerto Rican *Lepidocyrtus* (Hexapoda: Collembola)**

F. Soto. University of Vermont

11:15 353 **History of host-plant association in north American *Trirhabda* leaf beetles (Coleoptera, Chrysomelidae) inferred from molecular data***

Z. Swigonova & K. M. Kjer. Rutgers University

11:30 354 **Ancestral reconstructions and phylogenetic effects in evolution of development in *Crepidula* (Gastropoda)**

R. Collin. STRI

11:45 355 **Phylogeny of the Acroceridae (Diptera) using multiple molecular markers**

S.L. Winterton, B.M. Wiegmann, & E.I. Schlinger. North Carolina State University

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*Plant Reproductive Biology*
*Everitt 151*

*Session Moderator: Veronique Delesalle*

8:30 356 **Exploring tradeoffs between flower and fruit production in *Clarkia unguiculata* (Onagraceae)**

V. Delesalle. Gettysburg College

8:45 357 **Constraints on the evolution of dioecy: Comparison of quantitative genetic parameters for sexual traits in three populations of gynodioecious *Fragaria virginiana***

T-L. Ashman. University of Pittsburgh

9:00 358 **Context-dependent selection for gender and sexual dimorphism in gynodioecious wild strawberry**

A. Case & T-L. Ashman. University of Pittsburgh

9:15 359 **Breeding strategy of *Rhizophora mangle***

D. J. Devlin, S. L. Grace, & S. E. Travis. University of Louisiana at Lafayette

9:30 360 **The evolution and maintenance of dioecy in *Sagittaria latifolia* (Alismataceae)**

M. E. Dorken & S. C. H. Barrett. University of Toronto

9:45 361 **Severe genetic cost of reproductive assurance in *Aquilegia canadensis***

C.R. Herlihy & C.G. Eckert. Queen's University

*Session Moderator: Lorne Wolfe*

10:30 362 **On the road again: reproductive consequences of the invasion process in *Silene latifolia***

L. Wolfe. Georgia Southern University

10:45 363 **The evolution of developmental plasticity: A case study of sex expression in *Solanum***

J. S. Miller & P.K. Diggle. University of Colorado

11:00 364 **Apomictic and polyploid evolution in the australian arid-zone mulga species complex (*Acacia*: Fabaceae)**

J. Miller. University of Iowa

11:15 365 **The effect of inflorescence size on the functional significance of protandry in *Chamerion angustifolium* (Onagraceae)**

M. Routley, & B. Husband. University of Guelph

11:30 366 **Adaptive plasticity, parental effects, and parental care in plants: a case for *Plantago lanceolata*.**

E. Lacey. University of North Carolina–Greensboro

11:45 367 **Cancelled**

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*Population Genetics 2*
*Lincoln 192*

*Session Moderator: Sean Collins*

8:30 368 **Microsatellite variation in the North American population of the hornet, *Vespa crabro***

S. A. Collins & S. H. Berlocher. University of Illinois at Urbana-Champaign

8:45 369 **Little background selection, but some adaptation, on lepidopteran W chromosomes**

P. Andolfatto, J. M. Scriber & B. Charlesworth. ICAPB, University of Edinburgh

9:00 370 **Linkage limits the power of natural selection in *Drosophila***

A. Betancourt, D. Presgraves. University of Rochester

9:15 371 **Selection at linked sites in the partial selfer *Caenorhabditis elegans***

A. D. Cutter & B. A. Payseur. University of Arizona

9:30 372 **Time transect of genetic change in a recently founded *Daphnia* population**

J.A. Fox & N.G. Hairston, Jr. Cornell University

9:45 373 **The effective population size of annuals: seed banks and fluctuating numbers**

L. Nunney. University of California, Riverside

*Session Moderator: John Wakeley*

10:30 374 **Gene genealogies when the sample size exceeds the effective population size**

J. Wakeley. Harvard University

10:45 375 **Genetic conflict and the imprinting of sex-linked genes**

H. G. Spencer, A. E. Weisstein, & M. W. Feldman. University of Otago

11:00 376 **Patterns of genetic variation on the fourth chromosome of *Drosophila melanogaster* and *D. simulans***

K. Thornton, W. Wang, J.J. Emerson, & M. Long. University of Chicago

11:15 377 **Estimating effective population size and migration rates from genetic samples over space and time**

J. Wang & M. C. Whitlock. Zoological Society of London

11:30 378 **Control of gene expression? A population genetic model of the evolution of imprinting**

A. Weisstein & H. Spencer. University of Otago

11:45 379 **Stress-induced assortative mating and the evolution of stress resistance**

J. Winterer & A. E. Weis. Franklin and Marshall College

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*Speciation 3*
*Burrill 124*

*Session Moderator: Daniel Ortiz-Barrientos*

8:30 380 **The genetics of reinforcement in *Drosophila***

D. Ortiz-Barrientos & M.A.F. Noor. Louisiana State University

8:45 381 **Genome-wide patterns of expression in *Drosophila* pure-species and hybrid males**

M.A.F. Noor, L.A. Bertucci, & J. Reiland. Louisiana State University

9:00 382 **The evolution of conspecific sperm precedence in *Drosophila***

S. M. Dixon, J. A. Coyne, & M. A. F. Noor. Louisiana State University

9:15 383 **Acp sequence polymorphism in *Drosophila melanogaster* from Evolution Canyon**

T. Panhuis. University of California, Riverside

9:30 384 **A speciation experiment: Selection for divergent courtship form results in reproductive isolation**

L. Meffert & S. Hicks. Rice University

9:45 385 **Cladogenesis without sex**

C. W. Birky Jr., E. Henry, L. Herbertson, & C. Wolf. University of Arizona

*Session Moderator: Eric Baack*

10:30 386 **Lower barriers to persistence of novel tetraploids in a spatial model**

E. Baack. Center for Population Biology, University of California, Davis

10:45 387 **Cancelled**

11:00 388 **Adaptive diversification and inter-island dispersal in the Hawaiian genus *Dubautia***

E. A. Friar. Rancho Santa Ana Botanic Garden

11:15 389 **How does one species become two? Differentiation in morphology, molecules, and reproductive compatibility within *Silene rotundifolia***

L. C. Moyle & J. Antonovics. Duke University

11:30 390 **Recurrent tetraploid formation, triploid bridge and sympatric coexistence of diploid and tetraploid *Chamerion angustifolium* (Onagraceae)**

B.C. Husband & T.L. Burton. University of Guelph

11:45 391 **Ecological divergence in experimental microcosms**

G. Saxer, M. Doebeli, & M. Travisano. University of Houston

# Monday July 1 PM

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*Conservation Biology 2*
*DKH 114*

*Session Moderator: Timothy Collins*

1:15 392 **Assessing conservation decisions in a demographic context**

A. Keyser, M. Keyser, & D. Promislow. University of Georgia

1:30 393 **Phylogenetics and invasive species: the case of synbranchid eels in the southeastern U.S.**

T. Collins, J. Trexler, M. Osentoski, L. Nico, & T. Rawlings. Florida International University

1:45 394 **Population differentiation and conservation of song sparrows (*Melospiza melodia*) in the San Francisco Bay region inferred by morphological and microsatellite loci analysis**

Y. Chan & P. Arcese. Stanford University

2:00 395 **Conservation implications of systematics in Southeast Asian Turtles***

T. Engstrom, P. Spinks, B. Shaffer, & W. McCord. University of California, Davis

2:15 396 **Ancestral population size in elephant seals and right whales inferred from intron sequence divergence at multiple loci**

M.P. Hare & S.R. Palumbi. University of Maryland

2:30 397 **Ecotones, gradients and environmental transitions in evolutionary ecology**

S. Kark. Stanford University

2:45 398 **The evolution of indian ocean giant tortoises**

E. P. Palkovacs, J. Gerlach, & A. Caccone. Yale University

3:00 399 **Conservation genetics of the greater prairie chicken**

J.A. Johnson & P.O. Dunn. University of Wisconsin, Milwaukee

3:15 400 **Cancelled**

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*Development & Evolution 2*
*Everitt 151*

*Session Moderator: Andrea Gargas*

1:15 401 **Metabolic pathway evolution in fungi**

A. Gargas. University of Wisconsin, Madison

1:30 402 **Using phylogeny to study development**

E. A. Kellogg, A. Doust, & S. Malcomber. University of Missouri, St. Louis

1:45 403 **Evolutionary loss of canalized leaf-shoot organization in *Streptocarpus* (Gesneriaceae)**

Q.C.B. Cronk, C.J. Harrison, M. Moeller & A. Hudson. University of Edinburgh

2:00 404 **Single-gene mutations accounting for photoperiod-sensitivity differentiation between wild rice species**

T. Sang, C.-B. Li, & A.-L. Zhou. Michigan State University

2:15 405 **Moving genes between species to test evolutionary developmental hypotheses: The role of LEAFY in the evolution of plant architecture in Brassicaceae**

H.-S. Yoon & D. A. Baum. University of Wisconsin

2:30 406 **Developmental genetic models for the evolutionary origin of the angiosperm flower**

D. A. Baum. University of Wisconsin

2:45 407 **Variation, canalization and asymmetry: Exploring Waddington's legacy**

I.M. Dworkin. University of Toronto

3:00 408 **Functional evolution of a vertebrate transcription factor protein: HoxA-11 in the fin-limb transition**

J. J. Roth, Chi-hua Chiu, G. P. Wagner. Yale University

3:15 165 **Floral symmetry genes are implicated in the evolution of stamen number in Antirrhineae (Veronicaceae)***

L. C. Hileman, E. M. Kramer, & D. A. Baum. Harvard University

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*Inbreeding*
*Burrill 124*

*Session Moderator: Don Waller*

1:15 410 **Does inbreeding purge the load? Experiments with *Brassica rapa***

D. Waller, J. Dole, and A. Bersch. Univ. of Wisconsin, Madison

1:30 411 **Field tests of inbreeding effects on tolerance to herbivory and host plant quality in *Mimulus guttatus***

C. Ivey & D. E. Carr. University of Virginia & M.D. Eubanks. Auburn University

1:45 412 **Likelihood ratio tests of the deleterious mutation model**

J. Kelly. University of Kansas

2:00 413 **Inbreeding depression in perennial lupine: Does population size matter?**

H. Michaels, X. Shi, & R. Mitchell. Bowling Green State University

2:15 414 **Mutational meltdown: Does ecology matter?**

B. H. Davis & P. A. Abrams. University of Toronto

2:30 415 **Genetic load in chinook salmon (*Oncorhynchus tshawytscha*): Evidence from genetic analysis of hermaphrodite progeny**

B. Young, D. Roy, G. Cho, & D.D. Heath. GLIER, University of Windsor

2:45 416 **Joint evolution of gynodioecy and recessive mutations in genetically explicit models**

S.T. Schultz. University of Miami

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*Phylogenetic Theory & Methods 1*
*Wohlers 141*

*Session Moderator: David Hillis*

1:15 417 **Analysis and visualization of phylogenetic tree-space**

D. M. Hillis, D. J. Zwickl, J. Klinger, & A. B. Amenta. University of Texas

1:30 418 **Using the quantitative genetics threshold model for discrete character phylogenies**

J. Felsenstein. University of Washington

1:45 419 **Should we assume a common set of branch lengths for different sets of characters?**

M. Holder, P. Lewis, & D. Swofford. University of Connecticut

2:00 420 **Bayesian approaches to data combinability and phylogenetic information content**

P. Lewis, M. Holder, S. Shoup, & L. Lewis. University of Connecticut

2:15 421 **Bayesian inference of phylogenetic trees under no-common-mechanism models**

D. Swofford, M. Holder, & P. Lewis. Florida State University

2:30 422 **A new efficient heuristic for tree inference under ML**

M. C. Milinkovitch. University of Brussels

2:45 423 **Using distance methods to build supertrees from GenBank gene trees**

R. Ree & M. J. Sanderson. University of California, Davis

3:00 424 **Identifying evolutionary mode in morphologic and molecular data: Testing the tests**

J. Marcot. University of Chicago

3:15 425 **The applicability of mixed likelihood models in phylogenetic inference***

D. J. Zwickl. University of Texas, Austin

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*Population Genetics 3*
*Lincoln 192*

*Session Moderator: Ashley Carter*

1:15 426 **Two pathways of evolution via gene duplication; a theoretical and simulation comparison**

A. J. R. Carter & G. P. Wagner. Yale University

1:30 427 **Estimation of recombination rate taking into account population subdivision**

P. Beerli, M. K. Kuhner, J. Yamato, & J. Felsenstein. University of Washington

1:45 428 **Population genetics of a disease resistance gene in *Lycopersicon pimpinellifolium***

A.L. Caicedo & B.A. Schaal. Washington University

2:00 429 **Comparative population genetics of humans and the great apes**

T.K. Altheide & M.F. Hammer. University of Arizona

2:15 430 **Gene flow outside the vacuum: An analytical model for quantifying the effects of environmental modulators of contemporary pollen movement**

R. Dyer & V. Sork. University of Missouri, St. Louis

2:30 431 **Optimal spatial statistics for analyzing structured populations**

B.K. Epperson. Michigan State University

2:45 432 **Activity variation within and between alcohol dehydrogenase (ADH) paralogues in *Drosophila mojavensis* and *D. arizonae***

L. M. Matzkin & W. F. Eanes. State University of New York at Stony Brook

3:00 433 **Balancing selection and divergent allele advantage**

C. Muirhead. Harvard University

3:15 434 **McDonald-Kreitman tests in regions of low recombination in *Drosophila***

L.A. Sheldahl, D.M. Weinreich, & D.M. Rand. Brown University

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*Sexual Selection 1*
*ASL 150*

*Session Moderator: Daphne Fairbairn*

1:15 435 **Going along for the ride: the adaptive significance of prolonged copulation in a water strider**

D. Fairbairn. University of California, Riverside

1:30 436 **Juvenile hormone affects eye-span in stalk-eyed flies**

C. Fry. University of Maryland, College Park

1:45 437 **Sexual selection drives convergent modification of wing morphology for sonation in the Pipridae (Aves)***

K. S. Bostwick. University of Kansas/ Cornell University

2:00 438 **Multiple signals for multiple receivers: Experience-related differences in female choice of male traits**

S. Coleman. University of Maryland

2:15 439 **Differentiation in sexually selected traits between the guppy and Endler's livebearer from natural populations**

H.J. Alexander & F. Breden. Simon Fraser University

2:30 440 **Evolution of sexual dimorphism in spottail darters**

R. Strange. Southeast Missouri State University

## Monday July 1 PM, continued

2:45 441 **Evolution of retinal structure and color communication in percid fishes**

K. Lawrence, K. McFarland, & R. Strange. Southeast Missouri State University

3:00 442 **Cancelled**

3:15 443 **The cost of mating in a sperm heteromorphic fly**

R. Snook. University of Sheffield

2:55–3:30 *SSE Dobzhansky Prize Winner • Foellinger*

**Speciation in the wild: Natural selection and the evolution of reproductive isolation in sticklebacks**

Howard Rundle, Simon Fraser University, British Columbia

4:00–5:00 *SSB: Presidential Address • Foellinger*

**A unified species concept and its consequences for systematic and evolutionary biology**

Kevin de Queiroz, Smithsonian Institution

# Tuesday July 2 AM

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*Quantitative Genetics 1*
*DKH 114*

*Session Moderator: Derek Roff*

8:30 444 **The evolution of genetic architecture: A new method of analysis**

D. Roff. University of California, Riverside

8:45 445 **Quantitative trait loci underlying architectural diversity and domestication in millet grasses**

A. Doust & E. Kellogg. University of Missouri, St Louis

9:00 446 **An exact formulation of phenotypic selection and the nature of heritability**

J.S. Heywood. Southwest Missouri State University

9:15 447 **From M through G to D**

D. Houle & J. Mezey. Florida State University

9:30 448 **Comparing G matrices: what common principal components can tell us**

J. Mezey. Florida State University

9:45 449 **Variation in flowering phenology and assortative mating in plants: new methods applied to *Brassic rapa***

T. Kossler & A.E. Weis. University of California, Irvine

*Session Moderator: Olav Rüppell*

10:30 450 **Quantitative genetics of the rate of adult development in honey bees**

O. Rüppell, T. Pankiw, M.K. Fondrk, & R.E. Page Jr. University of California, Davis

10:45 451 **Evolution of regulatory genetic pathways: Branched pathways and the G matrix**

N. Johnson & A. Porter. University of Massachusetts, Amherst

11:00 452 **The relative importance of selection and phylogeny in shaping G matrix differences between species**

M. Begin & D.A. Roff. McGill University

11:15 453 **Maternal effects in the immature and adult stages of a cricket**

S. Sokolovska, D. Roff. McGill University

11:30 454 **Circadian rhythmicity and epistatic modification of photoperiodic response**

D. Mathias, W. E. Bradshaw, & C. M. Holzapfel. University of Oregon

11:45 455 **Heritability estimation in the wild: importance of paternity analysis**

C. Vassiliadis & T.R. Meagher. University of St Andrews

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*Evolution of Behavior*
*Everitt 151*

*Session Moderator: Nicole Leahy*

8:30 456 **Effects of player representation on the outcome of a game theoretic non-reciprocal cooperative simulation***

N. Leahy. Iowa State University

8:45 457 **Body size and sex allocation in simultaneously hermaphroditic animals**

L. Angeloni, J.W. Bradbury, & E.L. Charnov. University of California, San Diego

9:00 458 **Genetic architecture of behavioral phenotype-environment associations in the lake whitefish (*Coregonus* sp.)**

S. Rogers & L. Bernatchez. Laval University

9:15 459 **Parasite altruism and the mechanisms of virulence**

S. P. Brown, M. E. Hochberg & B. T. Grenfell. University of Montpellier II

9:30 460 **Worker relatedness and colony performance in a leptothoracine ant**

F. Trampus. University of Houston

*Session Moderator: Alex Olvido*

10:30 461 **Signal components and signal preferences in a cricket**

A.E. Olvido & W.E. Wagner, Jr. University of Nebraska-Lincoln

10:45 462 **Thermal dependent variation in mating behavior in *Drosophila mojavensis***

A. Fasolo & R. Krebs. Cleveland State University

11:00 463 **The subtle costs of sexual selection**

J. Alipaz, S. Fang, & C-I Wu. The University of Chicago

11:15 464 **Altruism, tolerance and tribal formation**

M.E. Hochberg, S. Brown, & B. Sinervo. University of Montpellier

11:30 465 **Genomic imprinting in social insects: some risky predictions of sociobiological theory**

D. C. Queller. Rice University

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## *Phylogenetic Theory & Methods 2*
## *MSEB 100*

*Session Moderator: Michael Alfaro*

8:30 466 **Bayes or bootstrap? Comparative behavior and performance of bootstrapping and Bayesian MCMC sampling in assessing phylogenetic confidence**

M. E. Alfaro, S. Zoller, & F. Lutzoni. University of California, Davis

8:45 467 **A molecular timescale for vertebrate gene family evolution***

J. A. Cotton & R. D. M. Page. University of Glasgow

9:00 468 **Weighting for an answer: Assessment of differential weighting in mitochondrial genome data***

J.S. LaPolla, Z. Swigonova, & K.M. Kjer. Rutgers University

9:15 469 **Does the genetic code explain differences in substitution rate between codon positions? Evidence from large-scale database analyses***

T. Massingham. Museum of Zoology, Cambridge University (UK)

9:30 470 **Protein evolution with dependence among sites: A model**

J. Thorne, D. Robinson, D. Jones, H. Kishino, & N. Goldman. North Carolina State University

9:45 471 **Protein evolution with dependence among sites: Some results**

D. Robinson, D. Jones, H. Kishino, N. Goldman, & J. Thorne. North Carolina State University

*Session Moderator: Russell Gray*

10:30 472 **How tree-like is Indo-European linguistic evolution?**

R. Gray & F. Filimon. University of Auckland

10:45 473 **A Bayesian approach to maximum likelihood analyses of large datasets: An example using darters (Percidae: Etheostomatinae)**

T. J. Near. University of California, Davis

11:00 474 **Birds in a bush: power and polytomies in phylogenetic inference**

S. Poe & A. Chubb. University of California, Berkeley

11:15 475 **Performance of phylogenetic methods and mtDNA genes in vertebrates and invertebrates**

N.V. Schizas, J. Steinbachs, & J.W.O. Ballard. University of Chicago

11:30 476 **Independence of alignment and tree search**

M. Simmons. Colorado State University

11:45 477 **Phylogenetics meets functional genomics: comparing maximum likelihood models of gene expression evolution***

T.H. Oakley & W.-H. Li. University of Chicago

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## *Population Genetics 4*
## *Transport 103*

*Session Moderator: Thomas Meagher*

8:30 478 **Bootstrapping in paternity analysis: in search of a null hypothesis**

T. Meagher. University of St Andrews

8:45 479 **Is modularity necessary for evolvability?**
T.F. Hansen. Florida State University

9:00 480 **Polymorphism in gametic compatibility maintained by sperm competition and polyspermy**
R. Haygood. University of California, Davis

9:15 481 **Effects of epistasis in polygenic traits in mutation-selection balance**
J. Hermisson, T. Hansen, & G. P. Wagner. Yale University

9:30 482 **Genetic architecture underlying geographic variation in morphology, physiology and reproduction**
T. McKitrick, W.E. Bradshaw & C.M. Holzapfel. University of Oregon

9:45 483 **Population structure of a gorgonian coral in the Bahamas**
C.Gutierrez-Rodriguez & H.R. Lasker. SUNY at Buffalo

*Session Moderator: Michael McCartney*

10:30 484 **Genetic signatures of incipient speciation in a coral reef fish species flock**
M.A.McCartney, W.O. McMillan, & E. Bermingham. University of North Carolina, Wilmington

10:45 485 **Intraspecific variation in *Caenorhabditis elegans***
A. Sivasundar & J. Hey. Rutgers University

11:00 486 **Inferring demographic history in a continuous population**
J. F. Wilkins & J. Wakeley. Harvard University

11:15 487 **Balancing selection and linkage disequilibrium of RPS5 presence/absence polymorphism in *Arabidopsis thaliana***
H. Araki, D. Tian, E. Stahl, J. Bergelson, & M. Kreitman. University of Chicago

11:30 488 **No evidence of a recent severe population bottleneck in *Plasmodium falciparum***
A. L. Hughes. University of South Carolina

11:45 489 **Loci with major impacts on physiology and components of fitness**
J. Mitton. University of Colorado

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*Sexual Selection 2*
*ASL 150*

*Session Moderator: Jenny Drnevich*

8:30 490 **Comparative global gene expression and male fertility in *Drosophila melanogaster***
J. Drnevich, C. Johnson, & K. Hughes. University of Illinois at Urbana-Champaign

8:45 491 **Sexual selection favors large size in dwarf males in an orb-weaving spider**
M. Foellmer & D. Fairbairn. Concordia University

9:00 492 **A test of sexual antagonism in house flies**
S. Hicks & L. Meffert. Rice University

9:15 493 **Female mate choice in relation to heterozygosity in *Trbolium castaneum***
A. Pai & G. Yan. State University of New York at Buffalo

9:30 494 **Differential variation in body and genitalia size in the species of *Ozodiceromyia nanella* (Cole)(Diptera: Therevidae)**
M. A. Metz. University of Illinois at Urbana-Champaign

*Session Moderator: Felix Breden*

10:30 495 **Genetics of female preference in the guppy and Endler's livebearer**
F. Breden. Simon Fraser University

10:45 496 **Effects of sperm competition on the evolution of seminal proteins in the great apes**
S. Kingan, M. Tatar, & D. Rand. Brown University

11:00 497 **Parental effects on offspring performance in gray tree frogs: genetic quality or compatibility?**
A. M. Welch. University of North Carolina–Chapel Hill

11:15 498 **Diversification of courtship displays in the bird of paradise genus *Parotia*: A macroevolutionary perspective on sexual selection and speciation**
E. Scholes III. University of Kansas

11:30 499 **Cancelled**

11:45 500 **The Napoleon complex: why smaller males pick fights**
M.R. Morris, W. Just, & X. Sun. Ohio University

*Hybridization 2*
*Burrill 124*

*Session Moderator: Ben Fitzpatrick*

8:30 501 **Environment-dependent and locus-dependent barriers to gene exchange in a tiger salamander hybrid zone**
B. M. Fitzpatrick & H. B. Shaffer. University of California, Davis

8:45 502 **Extensive introgression in arctic members of the *Daphnia pulex* complex as revealed by microsatellite markers**
F. Dufrense, L.J. Weider, A. Hobaek, J.K. Colbourne. Université du Québec à Rimouski

9:00 503 **Identifying species hybrids using multilocus genetic data**
E. C. Anderson & E. A. Thompson. University of California, Berkeley

9:15 504 **Hybrid lethality in sympatric *Mimulus*: the importance of Dobzhansky-Muller and nuclear-cytoplasmic interactions.**
N. Martin & J. Willis. Duke University

9:30 505 **Pollen flow and the origin of hybrid phenotypes in a *Crepis* (Asteraceae) hybrid zone**
J. Whitton, K. Dlugosch, & K. Ryall. Dept. Botany, Univ. British Columbia

9:45 506 **Genetics of speciation in the *Anopheles gambiae* complex: A QTL approach to male hybrid sterility**
M. Slotman, A. della Torre, & J. R. Powell. Yale University

*Invertebrate Life History Evolution*
*Burrill 124*

*Session Moderator: Avis James*

10:30 507 **Cancelled**

10:45 508 **Ontogeny and allometric scaling of life history in *Daphnia***
J. Dudycha, C. Baer, & M. Lynch. Indiana University

11:00 509 **Life history correlations: when shouldn't traits trade off?**
K. M. Fedorka & T. A. Mousseau. University of South Carolina

11:15 510 **The role of resource availability in allocation patterns between growth and nutrient storage in the grasshopper, *Schistocerca americana***
D. A. Hahn. University of Arizona

11:30 511 **Mitochondrial fitness: A comparison of divergent intraspecific haplotypes**
A.C. James & J.W.O. Ballard. University of Iowa

11:45 512 **Life history trait evolution in satyrine butterflies (Nymphalidae: Satyrinae)**
D. L. Murray. Oregon State University

# Tuesday July 2 PM

*Ecological Genetics of Plants*
*ASL 150*

*Session Moderator: Christina Caruso*

1:15 513 **Can physiological traits influence floral evolution? A case study with *Lobelia***
C. M. Caruso, H. Maherali, A. Mikulyuk, K. Carlson, & R. B. Jackson. Duke University

1:30 514 **Molecular evolution of TGG1 in *Arabidopsis thaliana*: Positive selection for increased activity of a plant defensive enzyme**
B. Stranger & T. Mitchell-Olds. Max Planck Institute of Chemical Ecology

1:45 515 **Selection for overall size: environmental covariance or target of selection?**
C. Vanier & D. Thompson. University of Arizona

2:00 516 **Genetics of resistance to feeding by a diverse community of herbivores of horsenettle (*Solanum carolinense*)**
M. Wise. Duke University

2:15 517 **Alternative fates of tandemly duplicated genes: herbivore-induced proteinase inhibitors in *Arabidopsis***
M.J. Clauss & T. Mitchell-Olds. Max Planck Institute for Chemical Ecology

2:30 518 **Population genetics of divergence and secondary contact in ponderosa pine**
R.G. Latta, M.E.R. Boudreau, & S. Zeleneitz. Dalhousie University Biology Department

2:45 519 **Evolution in closely adjacent *Arabidopsis lyrata* populations**
R. Mauricio, R. S. Baucom, & J. L. Hamrick. Department of Genetics/University of Georgia

3:00 520 **Negative correlation between induction response and constitutive resistance in black mustard**
M. B. Traw & P. P. Feeny. University of Chicago

3:15 521 **The phylogentics of mustards (Brassicaceae): placing *Arabidopsis* in an evolutionary context**

M. Beilstein & E. A. Kellogg. University of Missouri, St. Louis

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*Phylogeography/Geographic Variation 2*
*Burrill 124*

*Session Moderator: Mariana Mateos*

1:15 522 **Linking habitat specialization and speciation in "stone plants"**

A.G. Ellis, A.E. Weis, & B. Gaut. University of California, Irvine

1:30 523 **Island and taxon effects in Lesser Antillean avian malaria revisted**

S. M. Fallon, E. Bermingham, & R. E. Ricklefs. University of Missouri, St. Louis

1:45 524 **Population systematics of the Southeast Asian Temple Viper (*Tropidolaemus wagleri*) based on mitochondrial DNA sequence analysis and morphological evidence***

U. Kuch & N. Vidal. Johann Wolfgang Goethe University

2:00 525 **Delimiting species boundaries in the cosmopolitan freshwater snail, *Physa (Physella) acuta* group***

A. Wethington, R. Dillon, R. Guralnick, & C. Lydeard. University of Alabama

2:15 526 **Evolution and biogeography of *Morchella*, the true morels**

K. O'Donnell. USDA-ARS-NCAUR

2:30 527 **Vicariance and dispersal across the trans-mexican volcanic belt**

M. Mateos & R.C. Vrijenhoek. Monterey Bay Aquarium Research Institute

2:45 528 **Phylogeography of vent invertebrates**

L. A. Hurtado & R. C. Vrijenhoek. Monterey Bay Aquarium Research Institute

3:00 63 **Invasion of the killer turtles: Pleistocene range expansions, selective sweeps, and snapping turtles.**

B. Shaffer, D. Starkey & M. Fujita. University of California, Davis

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*Genomics 2*
*Everitt 151*

*Session Moderator: Scott Edwards*

1:15 529 **Using genomics to look at the concerted evolution of the rDNA**

A. Ganley. Duke University

1:30 530 **The early evolutionary history of gene duplicates in the *C. elegans* genome***

V. Katju & M. Lynch. Indiana University

1:45 531 **A genomic approach to phylogenetic reconstruction in Drosophilidae**

P. O'Grady, J. Bonacum, & R. DeSalle. American Museum of Natural History

2:00 532 **Capacity for response in a reduced genome: Transcriptome analysis of *Buchnera aphidicola*, the bacterial endosymbiont of aphids**

J. Wilcox, H. Dunbar, N. A. Moran. University of Arizona

2:15 533 **Phylogenetic relationships and divergence times of MHC class I loci in primates**

H. Piontkivska & M. Nei. Pennsylvania State University

2:30 534 **Expression profiles of single cell types in plants and applications in evolutionary development**

K. Birnbaum, J. Jung, D. Galbraith, & P. Benfey. New York University

2:45 535 **A genomic schism in birds revealed by large-scale bioinformatics analysis of DNA strings**

S. V. Edwards, B. Fertil, A. Giron, & P. J. Deschavanne. University of Washington

3:00 536 **Rapid evolution of phenotypic diversity in *Bacillus subtilis* cultures**

H. Maughan, C.W. Birky Jr., & W.L. Nicholson. University of Arizona

3:15 537 **Selection against spurious binding sites shapes genomes**

M. Hahn, J.E. Stajich, & G. A. Wray. Duke University

## *Phylogenetic Theory & Methods 3*
## *MSEB 100*

*Session Moderator: Richard Zander*

1:15 538 **Reliability and null hypotheses with morphological and molecular data**
R. Zander. Buffalo Museum of Science

1:30 539 **Differential selection versus differential success: investigations into the cause of ecological correlates of dioecy**
J. C. Vamosi & S. M. Vamosi. University of Toronto

1:45 540 **Uninode coding vs. gene-tree parsimony for phylogenetic reconstruction using duplicate genes**
M. Simmons. Colorado State University

2:00 541 **From basepairs to bird songs: Phylogenetic data in the age of genomics**
M. Simmons, J. V. Freudenstein, K.M. Pickett, & J.W. Wenzel. Colorado State University

2:15 542 **Phylogeny of Polyneoptera: Direct optimization v. standard alignment techniques***
M. Terry. Brigham Young University

2:30 543 **Empirical substitution models for protein and rRNA**
T. Lui, S. Veerassamy, & E.R.M. Tillier. University Health Network

2:45 544 **Bayesian phylogenetics using an RNA substitution model: application to vertebrate evolution**
C. Hudelot, H. Jow, M. Rattray, & P. Higgs. University of Manchester

3:00 545 **Phylogenetic information content of large sequence databases: implications for vertebrate phylogeny**
A. Driskell, R. Ree, & M. Sanderson. University of California, Davis

3:15 546 **Relationship between the bootstrap and posterior probability in phylogenetic analysis**
M. P. Cummings & D. S. Myers. Marine Biological Laboratory, Woods Hole

## *Phylogenetics & Systematics*
## *DKH 114*

*Session Moderator: Roberta Mason-Gamer*

1:15 547 **Bayesian analysis of AFLPs in *Coreopsis grandiflora*, a species with a striking pattern of cpDNA introgression**
R. J. Mason-Gamer & M. M. Burns. University of Illinois, Chicago

1:30 548 **If you want something done right you have to do it yourself: Invasive Argentine ants do not replace native ants as seed dispersers**
S. E. Carney, M. B. Byerley, & D. A. Holway. Colorado State University

1:45 549 **Phylogeny and evolution of neotropical lianas (bignonieae, bignoniaceae)***
L. G. Lohmann. University of Missouri, St. Louis

2:00 550 **Reconstructing ancestral transitions between reproductive modes in *Porpidia* (lichen-forming Ascomycota)***
J. Buschbom. University of Chicago

2:15 551 **A phylogeny of Foraminifera and its evolutionary implications**
S. L. Richardson. Smithsonian Marine Station at Ft. Pierce

2:30 552 **Molecular phylogenies of major mangroves**
S. Shi. School of Life Sciences, Zhongshan University

2:45 553 **Excavata: composition and phylogeny of a major new grouping within eukaryotes**
A. Simpson. Dalhousie University

3:00 554 **Systematics of the *Cratogeomys gymnurus* species complex based on morphological data***
J.E. Light & M.S. Hafner. Louisiana State University

3:15 555 **Resolving ancient divergences in molecular phylogenetic analyses: sources of error and bias in a 9-locus data set from seed plants**
S. Mathews & J. G. Burleigh. University of Missouri-Columbia

4:00–5:00 ***SSE Presidential Address • Foellinger***
**Making sense of genomes**
Nancy Moran, University of Arizona

# Poster Presentation

*Odd numbered Posters will be presented on Saturday, June 29 from 7:00 PM–9:00 PM*

*Even numbered Posters will be presented on Monday, July 1 from 7:00 PM–9:00 PM*

*Union – Illini Rooms A-B*

## Education

P1 **Evolution in Canadian curricula**

B. Alters, S. Alters, & A. Luk. McGill University

P2 **Relationship between students' understanding of the nature of science and evolutionary processes**

J. Kurdziel. University of Arizona

P3 **The idea of progress in contemporary evolutionary biology**

B. Larson. University of California, Santa Barbara

P4 **Student interface to the Biology Workbench: An educational orientated interface for bioinformatics and evolution**

B. Southey, E. Jakobsson, & N. Exner. University of Illinois at Urbana-Champaign

## Phylogenetic Theory & Methods

P5 **Profile parsimony, cladistic parsimony, and maximum likelihood: The performance of three goodness-of-fit criteria in a corroboration framework**

D. P. Faith, J. W. H. Trueman, & M. Gibbs. Australian Museum

P6 **Fast phylogenetic methods for gene order data: An empirical study**

L. Raubeson, L.-S. Wang, R. Jansen, B. Moret, & T. Warnow. Central Washington University

P7 **Using properties of mitochondrial genome data to predict optimal weighting strategies** *

Z. Swigonova, J. S. LaPolla, & K. M. Kjer. Rutgers University

P8 **Generalizing quartet methods to various numbers of taxa using minimum evolution**

S. Willson. Iowa State University

P9 **Major events in the history of the Asteroidea (Echinodermata): A paleontological perspective**

D. Blake. University of Illinois, Urbana-Champaign

P10 **A simple, fast, yet reliable phylogenetic reconstruction method using unaligned molecular sequences**

X. Xuchua. University of Hong Kong

## Phylogenetics & Systematics

P11 **Environmental GIS modeling of distribution patterns in *Actinodendron plumosum*, a sea anemone with a large geographic range** *

A. Ardelean. University of Kansas

P12 **A comparison of two molecular markers, AFLPs and mitochondrial DNA sequences, in two morphologically distinct species of Malagasy birds**

M. M. Burns, S. J. Hackett, J. M. Bates, R. J. Mason-Gamer, & S. M. Goodman. University of Illinois, Chicago

P13 **Evolutionary relationships among terrestrial, freshwater and marine ascomycetes**

J. Campbell & C. Shearer. University of Illinois, Urbana-Champaign

P14 **Nuclear and mtDNA perspectives on the arvicoline radiation**

C. Conroy, J. A. Cook, & A. M. Runck. Museum of Vertebrate Zoology, University of California, Berkeley

P15 **Systematics of the two feeding morphs of *Schizocerella pilicornis*, Holmgren (Hymenoptera: Argidae) inferred from sequences of the cytochrome oxidase I gene**

C. Hartsough, E. Connor, & G. Spicer. San Francisco State University

P16 **A comparison of pupal morphology in the Asiloidea**

M. Hauser. University of Illinois, Urbana-Champaign

P17 **Evolution & phylogeography of spring snails (Gastropoda: Hydrobiidae) from the Great Artesian Basin, Australia** *

K. Perez, C. Lydeard, D. Colgan, & W. F. Ponder. University of Alabama

P18 **Phylogenetic relationships among sigmodontine rodents based on mitochondrial cyctochrome b DNA sequence data** *

Q. Shurtliff, D. Rogers, & D. McClellan. Brigham Young University

P19 **A case study in the evolution of a novel suite of traits: egg-powdering in sharpshooters (Hemiptera: Cicadellidae)**

D. M. Takiya, R. A. Rakitov, & C. H. Dietrich. Illinois Natural History Survey

P20 *Siderion*: A potential new genus of braconids in the subfamily Microgastrinae

A. A. Valerio & J.B. Whitfield. University of Illinois at Urbana-Champaign

P21 Re-examining the role of chromosomal rearrangements in the California tarweed genus *Calycadenia* (Asteraceae)

J. Whitton & T. Olson. Dept. Botany, Univ. British Columbia

P22 Cancelled

P23 Origin and biogeography of Pacific *Melicope*

E. Zimmer, G. Allan, A. Medina-Marino, & W.L. Wagner. Smithsonian Institution

P24 Grafting trees and networks: phylogenetic and phylogeographic history in a clade of Patagonian lizards

L. Avila, M. Morando, & J. Sites, Jr. CONICET–Brigham Young University

P25 Phylogenetic analysis and polyploidy in the plant genus *Amaranthus*

A. Bennett. Salisbury University

P26 Phylogenetics of New Zealand alpine cicadas

T. R. Buckley. Landcare Research

P27 Systematics of the genus *Diolcogaster* Ashmead (Microgastrinae: Braconidae) from the New World *

W. Y. Choi & J. B. Whitfield. Department of Entomology, University of Illinois at Urbana-Champaign

P28 Molecular phylogenetics of a ground cricket

M. D. Clay & J. L. Marshall. The University of Texas at Arlington

P29 Phylogenetic research on *Sisyrinchium*

E. Denney, E.Gallagher, J. Wachtel, & Dr. K. Hunter. Salisbury University

P30 Molecular phylogenetics of North American cave crayfishes

J. W. Fetzner Jr., J. Buhay, D. I. Withers, & K. A. Crandall. Carnegie Museum of Natural History

P31 Phylogenetic relationships in a species-rich family of sea stars (Asteriidae)

D. Foltz, S. Culliton, B. Kelley, & M. Bolton. Louisiana State University

P32 Phylogenetic analysis of *Echinaster* (Othilia) from the Western Atlantic. Part I: Morphology

F. M. Fontanella & T. S. Hopkins. University of Alabama

P33 The molecular phylogeny of monk seals

C. Fyler, T. Reeder, A. Berta, G. Antonelis, & A. Aguilar. San Diego State University

P34 Phylogeny of the genus *Lomatium* (Apiaceae) based on ITS and ETS sequence data and parsimony, maximum likelihood and Bayesian analyses

M. Gitzendanner, G. Jacobson, D. Soltis, & P. Soltis. University of Florida

P35 The evolution of North American *Elymus* (Poaceae) allotetraploids: evidence from phosphoenolpyruvate carboxylase (PEPC) gene sequences and AFLP data

D. M. Helfgott & R. J. Mason-Gamer. University of Illinois, Chicago

P36 Phylogeny of the galerucines and flea beetles

K.M. Kjer, C.N. Duckett, J.G. Gillespie, D. Tallamy, & A. Konstantinov. Rutgers-Cook College

P37 Libelluloid dragonfly evolution: Determining morphological polarities, convergence and coapomorphy in the light of molecular evidence

K.M. Kjer & F.L. Carle. Rutgers-Cook College

P38 Higher level phylogeny of Odonata: Molecules and morphology

F.L. Carle, K.M. Kjer, & M.L. May. Rutgers-Cook College

P39 Differences in mtDNA descending through male and female lineages in the Unionidae

R. Krebs. Dept. of BGES, Cleveland State University

P40 Retrieving shallow and deep history in the Andean and Patagonian biota: *Liolaemus elongatus-kriegi* complex (Squamata: Liolaemidae) as a model system

M. Morando, L.J. Avila, & J.W. Sites Jr. Brigham Young University–CONICET

P41 Recently completed mt DNA genomes resolve more ordinal-level relationships within Plethornithae birds *

T.A. Paton & A.J. Baker. Royal Ontario Museum/University of Toronto

P42 Investigation of the phylogenetic relationship among mammals using complementary milk proteins.

S. Rodriguez-Zas & B. Southey. University of Illinois at Urbana-Champaign

P43 A molecular phylogeny of the genus *Cerastium* (Caryophyllaceae)

A. C. Scheen, C. Brochmann, A. Brysting, R. Elven, P. S. Soltis, & D. E. Soltis. University of Oslo/University of Florida

P44 Mitochondrial DNA evolution in *Rhagoletis* (Diptera:Tephritidae): An update

J. Smith. Michigan State University

P45 PANDIT: A database of protein and nucleotide domains with inferred trees

S.Whelan, PIW de Bakke, & N. Goldman. Dept of Zoology, University of Cambridge, UK

## Phylogeography / Geographic Variation

P46 **Molecular phylogeography of western chipmunks**

J. Brahic & G. Spicer. San Francisco State University

P47 **Extreme population subdivision in flightless kiwi of New Zealand: avian equivalents of small mammals**

M.L. Burbidge, R.M. Colbourne, H.A. Robertson, & A.J. Baker. University of Toronto & Royal Ontario Museum

P48 **Phylogeographic and coalescent approaches to dispersal and vicariance in Lesser Antillean Bats**

B. C. Carstens, P. Joyce, S. C. Pedersen, & J. M. Sullivan. University of Idaho

P49 **Comparative phylogeography of two species of tropical passerines; analysis of genetic and morphological divergence across the andes**

C. Dingle & T.B. Smith. San Francisco State University

P50 **Evolutionary history and habitat transitions of an invasive lineage**

B. Eads & C. Eunmi Lee. Dept. of Zoology, University of Wisconsin

P51 **Historical and ecological factors in diversification in Amazonian frogs**

K. R. Elmer, D. Koscinski, C. Gascon, J. A. Dávila, J. P. Bogart, P. T. Boag, & S. C. Lougheed. Queen's University

P52 **Evolutionary genetics of zebra and quagga mussel invasions** *

G. E. May, G. W. Gelembiuk, M. Gerner, & C. Eunmi Lee. University of Wisconsin, Madison

P53 **Zebra mussels: evolutionary inferences in a colonizing species**

G. W. Gelembiuk, G. E. May, M. Y. Gerner, & C. Eunmi Lee. University of Wisconsin, Madison

P54 **The hierarchy of an adaptive radiation: Specialization in an intra-island radiation of Caribbean anoles**

R. Glor, J. J. Kolbe, R. Powell, A. Larson, & J.B. Losos. Washington University

P55 **Testing the central-peripheral model: Mixing undergraduates, collared lizards, and microsatellites**

D. Hutchison. Whitman College

P56 **Comparative rodent phylogeography of the Albertine Rift, East Africa and nested cladistic analysis of *Hylomyscus denniae*: implications for conservation**

S. S. Loew, M. H. Huhndorf, & J. C. K. Peterhans. Illinois State University

P57 **American Pronghorn: gleaning historical phylogeographic information from populations with extensive translocation histories**

C. L. Malone, J. C. deVos, Jr., J. R. Heffelfinger, T. E. Lee, J. W. Bickham, & O. E. Rhodes, Jr. Purdue University

P58 **Phylogeography of the red-spotted admiral (*Limenitis arthemis*) butterfly complex: Implications for the evolution of mimicry**

S. Mullen. Cornell University

P59 **Phylogenetics of asexuality in the microcrustacean *Daphnia pulex***

S. Paland, J. Colbourne, & M. Lynch. Indiana University

P60 **Comparative phylogeography of the fruit bats *Cynopterus brachyotis* and *Haplonycteris fischeri* in the Philippines**

T. E. Roberts. University of Chicago

P61 **Divergence of three populations of *Lysiphlebus testaceipes* (Hymentoptera: Aphidiidae) differing in cold temperature tolerance**

K. A. Shufran, D. B. Jones, & N. C. Elliott. USDA-ARS

## Conservation Biology

P62 **Neutral genetic diversity and population size in a commercially valuable plant, American ginseng**

M. R. Anderson & S. S. Loew. Illinois State University

P63 **Mutation rates and fitness effects of heavy metal mixtures in white-footed mice (*Peromyscus leucopus*)**

D. M. Guan, S. S. Loew. Illinois State University

P64 **Population genetics of *Arapaima gigas*, one of the biggest freshwater fishes the Amazon basin: implications for its conservation**

T. Hrbek, I. P. Farias, M. Crossa, I. Sampaio, & A. Meyer. University of Konstanz

P65 **The impact of habitat fragmentation on the competitive ability of a native prairie plant species, *Chamaecrista fasciculata***

C. Mannouris & D. L. Byers. Illinois State University

P66 **Molecular assessment of the host association of a biological control agent *Rhinocyllus conicus***

A. Paradis, S. Louda, & G. Orti. University of Nebraska

P67 **Genetic analysis of the endangered Hawaiian goose, nene**

R. Trimble, A. Veillet, D. Franke, B. Flesher, C. Muir, D. Hu, & D. Price. University of Hawaii at Hilo

P68 **Microsatellite analysis of population structure and genetic variation in Humboldt penguins**

J. Schlosser & J. Dubach. University of Illinois, Chicago

P69 **A spatial dynamic model of a snake; *Elaphe o. obsoleta***

S. Stoddard, P. Weatherhead, & B. Hannon. University of Illinois at Urbana-Champaign

P70 **Inbreeding effects and the selection response of small populations**

W. Swindell & J.L. Bouzat. Bowling Green State University

P71 **An experimental test of captive breeding strategies: assays of fitness, inbreeding and genetic variability in *Musca domestica***

E. Wheeler & L. Meffert. Rice University

## Ecological Genetics

P72 **The effect of mtDNA clade boundaries on nuclear gene flow in the western fence lizard, *Sceloporus occidentalis***

J. Archie & T. Vail. California State University

P73 **Heritability and genetic correlations of ecological traits in *Avena barbata***

J.L. MacKenzie & R.G. Latta. Dalhousie University Department of Biology

P74 **Genetic diversity and polyploidy of *Phragmites australis* by population comparison**

S. Pinter & K. Hunter. Salisbury University

P75 **Population genetic structure of *Musculium securis* (Sphaeriidae, Bivalvia) in a group of temporary ponds**

N. Reynolds, A. Bohonak, C. Charlton, & D. Jenkins. University of Illinois, Springfield

P76 **Autumn leaf senescence –Genotypic variation within and among populations**

K. Schwaegerle & M. Mueller. University of Alaska, Fairbanks

P77 **Genetical diversity of the mangrove and terrestrial populations of *Hibiscus tiliaceus* and *Heritiera littoralis* based on AFLP and ISSR**

S. Shi. School of Life Sciences, Zhongshan University

P78 **Molecular characterization of tetranucleotide microsatellites in the smallmouth salamander (*Ambystoma texanum*)***

R. N. Williams & J. A. DeWoody. Purdue University

## Life History Evolution

P79 **Phylogenetic origins of a complex behavior (weaving) in a genus of ants: Molecular phylogeny of the genus *Polyrhachis***

A.T. Beckenbach, S.K. Robson, R. Kohout, & R.H. Crozier. Simon Fraser University

P80 **Age related variation in yolk testosterone levels may limit egg size in *Chrysemys picta***

R. M. Bowden, H. K. Harms, & F. J. Janzen. Iowa State University

P81 **Evolution of senescence in mice genetically selected for high voluntary wheel running**

A. M. Bronikowski, T. J. Morgan, T. Garland Jr., & P. A. Carter. University of Wisconsin, Madison

P82 **Does the length of the breeding season select for more rapid growth rate in rodents?**

E. M. Derrickson. Loyola College

P83 **Relatedness and reproduction in polygyne nests of the yellowjacket, *Vespula squamosa***

G. Fritz, S. Stewart, & A. J. Deets. Eastern Illinois University

P84 **Marker-based estimates of inheritance of neonatal body size in nature**

F. Janzen, R. Bowden, & D. Pearse. Iowa State University

P85 **Correlations among life history traits in the gametophyte and sporophyte generations of the moss *Ceratodon purpureus* ***

S. F. McDaniel & A. J. Shaw. Duke University

P86 **Island syndrome: Microevolution of *Peromyscus maniculatus* on the islands of Charlevoix County, Michigan**

O. Podlaha. University of Michigan, Ann Arbor

P87 **Slowing the approach of the grim reaper? Causes of mortality plateaus in *Drosophila melanogaster***

R. Reynolds & K. Hughes. University of Illinois, Urbana-Champaign

P88 **Prenatal sex ratio influences sexual dimorphism in a reptile**

T. Uller & M. Olsson. University of Gothenburg

## Mating / Breeding Systems

P89 **Immunocompetence and extra-pair copulation in the red-billed gull from Kaikoura Peninsula, New Zealand**

N. L. Chong, A.D. Given & A.J. Baker. University of Toronto and Royal Ontario Museum

P90 **Sperm storage patterns in the fruit fly, *Anastrepha suspensa***

A. Fritz. Eastern Illinois University

P91 **The influence of size, genetics, and competition on alternative male mating behaviors in guppies**

K. Hughes, H. Rodd, & D. Reznick. University of Illinois

P92 **Mixed mating: Does it really occur in trees?**

D. G. Scofield & S. T. Schultz. Department of Biology, University of Miami

P93 **Exploration of the role of herbivory in the expression of a mixed mating system**

J. A. Steets & T-L. Ashman. University of Pittsburgh

P94 **Clonal reproduction and the maintenance of self-incompatibility**

M. Vallejo-Marin & M. Uyenoyama. Duke University

## Molecular Evolution

P95 **Genetic architecture for growth traits and molecular markers in *Pinus halepensis* Mill**

R. Alia. Indiana University

P96 **Cytochrome b molecular evolution in lava lizards (Tropiduridae; *Microlophus*) of the Galapagos Archipelago.**

E. Benavides, D. McClennan, & J. W. Sites. Brigham Young University

P97 **Integrating genomics, bioinformatics and classical genetics to study the effects of recombination on genome evolution**

J.A. Birdsell. University of Arizona

P98 **Molecular evolution of the Major Histocompatibility Complex in the African clawed frog (*Xenopus laevis*) ***

D. H. Bos & B. Waldman. University of Canterbury

P99 **The molecular evolution of the DNA binding domain of Himar1 mariner transposase**

M. Butler, S. Chakraborty, & D. Lampe. Duquesne University

P100 **Molecular evolution within Acrididae (Insecta, Orthoptera, Caelifera)**

I.C. Chintauan-Marquier, C. Amedegnato & F. Pompanon. Laboratoire de Biologie des Populations d'Altitude

P101 **Natural selection in glycolytic genes of bacteria**

W.J. Diehl. Mississippi State University

P102 **Exploring non-LTR retrotransposon lineage diversity in teleost genomes using degenerate PCR**

D.D. Duvernell, S.Adams, K. Miller, & S.R. Pryor. Southern Illinois University, Edwardsville

P103 **Melanistic plumage patterns in Old World leaf warblers do not correspond to sequence variation in the melanocortin-1 receptor locusin**

E. A. MacDougall-Shackelton, H. L. Gibbs, & T. D. Price. Ohio State University

P104 **Patterns of codon usage in the yeast genome.**

M. Santiago, N. Irving, & R.M. Kliman. Kean University

P105 **Using P element mediated deletions, activity variants and 2-D NMR spectroscopy to estimate control coefficients in *D. melanogaster***

T. J. S. Merritt & W. F. Eanes. SUNY-Stony Brook

P106 **Does selection intensity change over time in MHC genealogies?**

D. Meyer. University of California

P107 **Molecular evolution of the myb gene family in grasses**

A. Norris & V. Oberholzer Vandergon. California State University, Northridge

P108 **Accounting for background nucleotide composition when measuring codon usage bias**

J. Novembre. University of California, Berkeley

P109 **Evolution of intron size in *Caenorhabditis elegans***

M. Palopoli, A. Prachumwat, & L. DeVincentis. Bowdoin College

P110 **The promoters of recently active LINE-1 elements in deer mice**

L. Scott & H. Wichman. University of Idaho

P111 **Mitochondrial genomes of beetles and comparisons with those of other hexapods**

J.B. Stewart, R. Falsafi, & A.T. Beckenbach. Simon Fraser University

P112 **Estimating the distribution of mutational fitness effects from DNA sequence data**

S. Williamson. University of Kansas

P113 **A study of the phylogeny of *Brassica*, *Rorippa*, *Capsella*, and allied genera based on the noncoding regions of chloroplast DNA**

Yau-Wen Yang, Pon-Yean Tai, & Ju-Yu Wang. Institute of Botany, Academia Sinica, Taiwan

## Quantitative Genetics

P114 **A microarray analysis to identify candidate genes for ethanol tolerance in *Drosophila melanogaster***

B. Caletka & J. D. Fry. University of Rochester

P115 **Morphological stasis in a copepod species complex: Qst and Gst in lab and wild populations**

C. Eunmi Lee. University of Wisconsin, Madison

P116 **Inheritance, natural selection, and sexual selection of body size and plumage characters in the dark-eyed junco, *Junco hyemalis***

J. W. McGlothlin, P. G. Parker, V. Nolan Jr., & E. D. Ketterson. Indiana University, Bloomington

P117 Cancelled

P118 DNA microarray analysis of overcompensation in *Arabidopsis*

D. Mooney. University of Illinois, Urbana-Champaign

## Population Genetics

P119 Limited interspecific gene flow between *Quercus lobata* and *Quercus douglasii* (Fagaceae) in a mixed stand in central coastal California

K. Craft. University of Illinois, Chicago

P120 Genetic analysis of a contact zone between two species of leopard frogs

M. R. Di Candia & E. J. Routman. San Francisco State University

P121 Evidence for positive selection at Mc1r, a gene underlying adaptive color variation in pocket mice

K.E. Drumm, H.E. Hoekstra, & M.W. Nachman. University of Arizona

P122 Using sequence data to test models for the persistence of duplicate genes

D.P. Genereux & J.M. Logsdon, Jr. Emory University

P123 Determinates of differentiation in Andean frogs: isolation vs. selection

D. Koscinski, P. L. Tubaro, & S. C. Lougheed. Queen's University

P124 Spatial and temporal population structure in a wild lemur population

R. R. Lawler, A. F. Richard, & M. A. Riley. Yale University

P125 Population genetics of the Giant Amazon River Turtle, (*Podocnemis expansa*), in the Amazon and Orinoco river basins

D.E. Pearse, V.H. Cantarelli, & J.W. Sites, Jr. Brigham Young University

P126 DNA sequence diversity In *Crassostrea virginica* in the Chesapeake Bay*

C. Rose & M. Hare. University of Maryland, College Park

P127 Adaptive amino acid evolution at the G6PH locus in *Drosophila simulans*

E. Sezgin & W. F. Eanes. State University of New York, Stony Brook

P128 Isolation, characterization, and chromosome mapping of microsatellites in *Drosophila ananassae*

S. Smith & M. Schug. University of North Carolina, Greensboro

P129 Testing for evidence of population-specific selective sweeps in humans using interlocus patterns of microsatellite variation

J. F. Storz, B. A. Payseur & M. W. Nachman. University of Arizona

P130 Inferences of *Drosophila ananassae* population structure using microsatellites

A. Tozier Pierce, S. Smith & M. Schug. University of North Carolina, Greensboro

P131 Do systems of mating that incorporate more than one male mate per female really increase inbreeding effective numbers?

M. Tringali. Florida Fish and Wildlife Commission

P132 Evidence of natural selection on pigmentation genes in Caribbean *Drosophila*

J. Wilder & H. Hollocher. Princeton University

## Mutations

P133 Direct estimate of microsatellite mutation rates in *Daphnia*

D.E. Allen, J. Colbourne, & M. Lynch. Indiana University

P134 The influence of premeiotic clusters of mutation on indirect estimations of mutation rate

Yi Gong, Sheng Gu, & R. C. Woodruff. Bowling Green State University

P135 Mutational effects and genetic background interactions in *Daphnia pulicaria*

S. Kolpak, K. Morgan, D. Allen, & M. Lynch. University of Oregon

P136 The effects of mutation accumulation on fitness of field populations of *Raphanus raphanistrum*

A. Roles & J. Conner. Kellogg Biological Station, Michigan State University

## Hybridization

P137 Discordant patterns of allozyme and non-allozyme marker introgression across a mussel hybrid zone

A. J. Abrams & C. Riginos. Duke University

P138 Barriers to hybridization in the blue mussel (*Mytilus edulis* and *M. trossulus*) hybrid zone in Atlantic Canada

M. Miranda, D. Innes, & R. Thompson. Memorial University of Newfoundland

P139 Microsatellite structure in the *Piriqueta caroliniana* complex's expanding hybrid zone

J. Rhode & M. Cruzan. Portland State University

P140 **Cancelled**

P141 **An analysis of introgression in the European house mouse hybrid zone**

K. Teeter & P. Tucker. University of Michigan

## Inbreeding

P142 **Testing for stress dependent inbreeding depression in maternal and progeny generations in *Impatiens capensis***

M. S. Heschel, N. Hausmann, C. Riginos, & J. Schmitt. University of Connecticut

P143 **Causes of inbreeding depression in the androdioecious shrimp, *Eulimnadia texana***

S. Weeks. The University of Akron

## Speciation

P144 **Replicated evolution of male coloration in stream and anadromous pairs of threespine stickleback, *Gasterosteus aculeatus***

S.M. Aurit & J.S. McKinnon. University of Wisconsin, Whitewater

P145 **Recent speciation in the Orchard Oriole group: Divergence of *Icterus spurius spurius* and *I. s. fuertesi****

J. M. Baker, E. López-Medrano, A. G. Navarro-Sigüenza, O. R. Rojas-Soto, & K. E. Omland. University of Maryland, Baltimore County

P146 **Ecological speciation in *Eurosta solidaginis***

T. Craig & J. K. Itami. University of Minnesota, Duluth

P147 **Towards a genetic characterization of diapause in *Rhagoletis* (Diptera:Tephritidae)**

H. Dambroski & J. Feder. University of Notre Dame

P148 **The genetics of sexual isolation in European corn borer moths (*Ostrinia nubilalis*)**

E.B. Dopman & R.G. Harrison. Cornell University

P149 **Rates of evolutionary loss of hybridization potential and molecular evolution in tetrapods**

B. M. Fitzpatrick, University of California, Davis

P150 **Effect of interspecies introgression on the genetics of hybrid sterility**

L.M. Henagan, D. Ortiz-Barrientos, & M.A.F. Noor. Louisiana State University

P151 **The examination of stage-specific germline defects in *Drosophila* hybrids using rescue lines**

H. Hollocher & A. Sainz. University of Notre Dame

P152 **The evolution of karyotype diversity: a molecular phylogeny of *Agrodiaetus* Hübner 1822 (Lepidoptera: Lycaenidae) inferred from mtDNA sequences for COI and COII***

N. Kandul, V. Lukhtanov, A. Dantchenko, J. Coleman, & N. Pierce. Harvard University

P153 **Morphological evolution in stream and anadromous sticklebacks from Asia, Europe, and North America ***

P. Katz, C. P. Kealy, & J. S. McKinnon. University of Wisconsin, Whitewater

P154 **Recent speciation in Indo-West Pacific sea urchins**

C. R. Landry, L.B. Geyer, & S.R. Palumbi. OEB, Harvard University

P155 **Behavioral aspects of reproductive isolation among 10 populations of threespine stickleback**

W.L. Paulson, S.S. Shell, J.P. Heltemes, E.L. Sassman, J. Poole & J.S. McKinnon. University of Wisconsin, Whitewater

P156 **The effect of cuticular waxes on reproductive isolation in stalk-eyed flies**

B. Peterson, S. Toll, & G. Wilkinson. University of Maryland

P157 **Does the candidate speciation gene, cid, underlie hybrid rescue in *Drosophila*?**

A. Sainz, J. Wilder, & H. Hollocher. University of Notre Dame

P158 **Sensory drive in bladder grasshoppers**

M. van Staaden, V. Couldridge, & N. Donelson. Bowling Green State University

P159 **Divergence of incipient species of pea aphids at selected and neutral loci**

J. West, D. Hawthorne, & S. Via. University of Maryland

## Species Interactions

P160 **Fitness effects of single and mixed gut parasite infections in woodland *Drosophila***

M. Ebbert, J. Burkholder, & J. Marlowe. Miami University

P161 **When two strains meet: Competition between alternative parasite strategies**

G. Harper. University of North Carolina, Chapel Hill

P162 ***Agonopterix alstroemeriana* and poison hemlock: Changes in plant defenses upon re-establishment of herbivory**

K. Lustofin & M. Berenbaum. University of Illinois, Urbana-Champaign

## Adaptation

P163 **Quantitative genetics and the foraging/predation risk trade-off in tadpole**

T. Watkins & M. McPeek. Macalester College

P164 **Adaptive divergence in response to water stress by edaphic races in *Lasthenia californica* (Asteraceae)**

J. Whitton & N. Rajakaruna. Univ. British Columbia

P165 **Natural selection in space and the evolution of dispersal endurance in discontinuous habitats** *

R. Yukilevich. State University of New York, Stony Brook

P166 **Adaptive radiation in experimental microcosms**

J. Brumley & M. Travisano. University of Houston

P167 **Evolutionary history influences host range**

K. Pepin, C. Burch, & H. Wichman. University of Idaho

P168 **Evolution of evolvability: an example with yeast prions**

J. Masel & A. Bergman. Stanford University

## Evolution of Microorganisms

P169 **Genotypic and phenotypic variation in an expanded collection of microvirid phage**

D. Rokyta, C. Burch, & H. Wichman. University of Idaho

P170 **Barriers to horizontal transmission of insect-associated endosymbionts**

J. A. Russell, P. Tran, C. Dale, & N. A. Moran. University of Arizona

## Genomics

P171 **Is *Wolbachia* horizontally transmitted?**

W. Harcombe. University of North Carolina

P172 **SNPs development in sunflower using DHPLC**

Z. Lai, K. Livingstone, & L. Rieseberg. Indiana University

P173 **Use of transcription patterns to assess stress levels in fathead minnows**

S. Lewis, S. Keller, D. Lattier, J. Lazorchak, & M. Smith. University of Cincinnati

P174 **Genetic linkage mapping of a homosporous fern, *Ceratopteris richardii***

T. Nakazato & G. Gastony. Indiana University

P175 **Patterns of natural selection in the order Mycoplasmatales**

J. D. Perkins III & W.J. Diehl. Mississippi State University

P176 **Reticulate evolution and phylogenetics of rat inbred strains**

M.A. Thomas, M.I. Jensen-Seaman, C.-F. Chen, & S. Twigger. Medical College of Wisconsin

P177 **On the feasibility of converting RAPD markers from dominant to codominant for population studies**

B. Wang, E. Levin, & A. Porter. University of Massachusetts, Amherst

P178 **Cancelled**

P179 **Comparative genomics of disease genes**

W. Wu, M. Joseph, M. Thomas, & P. Tonellato. Medical College of Wisconsin

P180 **Thermal tolerance and the evolution of Hawaiian picture-winged *Drosophila***

A. Reza, M. Dohm, S. Moore, S. Renn, C. Muir, D. Price, & W. Mautz. University of Hawaii at Hilo/Biology Department

P181 **Morphological and functional integration in the Papionin primate mandibular symphysis**

C. Vinyard & B. Payseur. Duke University

## Development & Evolution

P182 **Cancelled**

P183 **Correlated responses to adaptation in *Myxococcus xanthus***

C. Landry & M. Travisano. University of Houston

P184 **A Shh-Bmp2 developmental module and the evolution of feather branched structure**

R. O. Prum, M. P. Harris, & J. F. Fallon. University of Kansas

P185 **Genetic chimerism of marmosets**

C.N. Ross, G. Orti, & J.A. French. University of Nebraska

## Evolution of Behavior

P186 **Comparative escape behavior of Chihuahuan desert parthenogenetic and gonochoristic whiptail lizards**

P. Hotchkin & H. Riveroll Jr. The University of Texas, El Paso

P187 **Is geographic variation in nest-site choice adaptive in a reptile with temperature-dependent sex determination?**

C. Morjan. Iowa State University

P188 **Zebrafish as a model system for studying the genetic architecture of behavior**

B. Robison, M. Walden, B. Rowland, & M. Lynch. Indiana University

P189 **Genetic basis for persistent mating behavior in a species of cactophilic *Drosophila***

E. Ruedi, C. Tymczynal-Cobbs, & K. Hughes. University of Illinois, Urbana-Champaign

P190 **Colony budding and intercolonial aggression in the red imported fire ant**

A. Zarrabi & D. Wiernasz. University of Houston

## Sexual Selection

P191 **Patterns of assortative mating in the Hawaiian cricket *Laupala*: do differences in song lead to assortative mating within and between species?**

J. L. Grace & K. L. Shaw. University of Maryland, College Park

P192 **Polyandry provides genetic benefits in the decorated cricket (*Gryllodes sigillatus*)**

T. M. Ivy. Illinois State University

P193 **Phenotypic correlation between male aggression and female mating behavior in the genus *Nasonia***

J.E. Leonard & C.R.B. Boake. University of Tennessee, Knoxville

## Evolution of Sex

P194 **Mate choice and the maintenance of sex**

R. S. Howard. Middle Tennessee State University

P195 **Offspring production increases with copulation frequency and access to males in parthenogenetic *Potamopyrgus antipodarum***

M. B. Neiman & C. M. Lively. Indiana University

## Coevolution

P196 **Host defense determines host specificity**

S. Al-Tamimi & D. Clayton. University of Utah

P197 **Determining the age of avian lice by brute force.**

T. Ford & R.D.M. Page. Glasgow University

P198 **Regional and local variation in susceptibility to a protist parasite in the treehole mosquito, *Ochlerotatus sierrensis***

H. H. Ganz. University of California, Davis

P199 **Conserved response elements in the promoter of substrate inducible cytochrome P450**

C. McDonnell, R. Petersen, M. Berenbaum, & M. Schuler. University of Illinois, Urbana-Champaign

P200 **Transcriptional regulation of an insect P450 gene by plant chemicals** *

R. A. Petersen, M. Berenbaum, & M. Schuler. University of Illinois, Urbana-Champaign

P201 **Stable isotopes reveal variable host use in a Neotropical ant-plant association**

S.T. Trimble & C.L. Sagers. University of Arkansas

P202 **Lies I have told about lice: a fresh look at avian louse phylogeny**

V. Smith & K. Johnson. University of Glasgow

## Phenotypic Plasticity and GxE

P203 **Quantitative genetics of continuous reaction norms: thermal sensitivity of growth in *Pieris rapae***

J. G. Kingsolver & G. J. Ragland. University of North Carolina, Chapel Hill

P204 **The effects of temporal and spatial heterogeneity on trait evolution: A framework**

J. A. Stamberger. Stanford University

P205 **Phenotypic plasticity in *Arabidopsis thaliana* exposed to elevated CO2 and herbivory**

M.G. Bidart-Bouzat, K.N. Paige, E.H. DeLucia, & M.R. Berenbaum. University of Illinois, Urbana-Champaign

## Plant Reproductive Biology

P206 **The effect of interspecific competition for pollinator service on pollen dispersal and mating patterns in *Mimulus ringens***

J. Bell, J. Karron, & R. Mitchell. University of Wisconsin, Milwaukee

P207 **Effects of multiple visits by pollinators on the reproductive success of *Lupinus perennis***

S. J. Hevner, H. J. Michaels, & R. J. Mitchell. Bowling Green State University

P208 **The influence of floral design and pollinator attributes on pollen carryover and mating patterns of *Mimulus ringens***

K. Holmquist, J. Karron, & R. Mitchell. University of Wisconsin, Milwaukee

P209 **Selfing as a means of reproductive isolation under pollinator-mediated interspecific competition**

R. Smith & M. Rausher. Duke University

P210 **Frequency- and density-dependent fitness in gynodioecious *Geranium richardsonii*: effects at the population and neighborhood levels**

C. F. Williams, M. Piantek, & A. Gibson. Idaho State University

# Agriculture

P211 **Ancient DNA for construction of phylogenetic relationship of primitive wheat species from Turkey**

H. Bilgic & M.S. Akkaya. Middle East Technical University

P212 **Reducing the use of costly refuges in Bt transgenic crops**

C. Vacher, D. Bourguet, & M. Hochberg. University of Montpellier II, France

P213 **Genotypes at the BoCAL locus in broccoli, cauliflower, and purple cauliflower accessions**

J.A. Labate, L.D. Robertson, & T. Bjorkman. USDA-ARS, Cornell Univ.

P214 **Correlations among morphological and fertility factors segregating in an interspecific tomato cross**

K. Livingstone & L. Rieseberg. Indiana University

P215 **Speciation and adaptive radiation in cecidomyiid flies**

J.B. Joy. Simon Fraser University

# Guide to Restaurants

Within Walking Distance of the Illini Union

## American

**Dewey's Other Place**, 301 East Green, Champaign, 278-3000

**DJ's Italian Beef**, 612 East Daniel, Champaign, 367-5754

**Foudini's**, 306½ East Green, Champaign, 384-2607

**Wonderdogs**, 605 South Wright, Champaign, 355-9090

**Ye Olde Hickory Pit**, 60 E. Green, Champaign, 344-0710

## Breakfast

**International House of Pancakes**, 308 East Green, Champaign, 351-6972

## Café/Coffeehouse

**Café Paradiso**, 801 South Lincoln, Urbana, 384-6066

**The Daily Grind**, 502 East John, Champaign, 337-5511

**Espresso Royale**, 1117 West Oregon, Urbana, 337-6160; 602 East Daniel, Champaign, 328-1112; 1401 West Green, Urbana, 328-1335 (located on the 1st Floor *Illini Union)*

**Palette Café by Espresso Royale at Krannert Art Museum**, 500 East Peabody, Champaign, 344-2791

**Green Street Coffeehouse**, 608 East Green, Champaign, 344-5374

**Intermezzo Café at Krannert Center for the Performing Arts**, 500 South Goodwin, Urbana, 333-8412

**One World Café**, 809 South Fifth, Champaign, 344-0102

## Chinese

**Chinese Express**, 39 East Green, Champaign, 328-1818

**Empire Chinese**, 410 East Green, Champaign, 328-0832

**Home of Gourmet Chinese & Thai**, 604 East Daniel, Champaign, 344-7483

**Hot Wok Express**, 1102 West University, Urbana, 384-7170

**Mandarin Wok**, 403 East Green, Champaign, 337-1200

**Ren's Chinese Restaurant**, 410 East Green, Champaign, (no phone listed)

**Rice Garden**, 1401 West Green, Urbana, 328-6722 (lower level Illini Union)

**Yen Ching**, 613 South Wright, Champaign, 328-0088

**Yen Jing**, 404 East Green, Champaign, 352-2272

## Greek

**Mykonos**, 313 East Green, Champaign, 344-3090

**Niro's Gyros**, 1007 West University, Urbana, 328-6476

**Zorba's Restaurant**, 627 East Green, Champaign, 344-0710

## International

**Happy Wanderer**, 404 East Green, Champaign, 344-0244

## Italian

**Timpone's**, 710 S. Goodwin, Urbana. 344-7610

**Za's Italian Café**, 629 E. Green, Champaign.

## Japanese

**Asiana**, 408 East Green, Champaign, 398-3344

## Korean

**A-Ri-Rang**, 607 West Wright, Champaign, 355-5570

**Dorcas**, 403 East Green, Champaign, 337-7726

**Seoul Carryout**, 313 East Green, Champaign, 337-6686

## Mexican

**El Desmadre**, 625 East Green, Champaign, 384-5902

**La Bamba**, 606 South Sixth, Champaign, 344-6600

## Microbrewery

**Joe's Brewery**, 706 South Fifth, Champaign, 384-1790

## Middle Eastern

**Jerusalem Middle Eastern Cuisine**, 398-9022

## Pizza

**Bonnie Jean's**, 901 South Fourth, 239-2001

**Domino's Pizza**, 102 East Green, Champaign, 355-0717

**Garcia's Pizza**, 108 East Green, Champaign, 359-1212

**Papa Del's Pizza**, 411 East Green, Champaign, 344-2218

**Pizza Magia**, 508 East Green, Champaign, 344-4000

**Pizza Planet**, 33 East Green, Champaign, 328-5300

**Sbarro**, 1401 West Green, Urbana, 337-0100 (lower level *Illini Union)*

## Pub Fare

**Legends**, 522 East Green, Champaign, 355-7674

**Murphy's Pub**, 604 East Green, Champaign, 352-7275

**White Horse Inn**, 112½ East Green, Champaign, 352-5945

## Sandwiches/Deli

**Blimpie's**, 1401 West Green, Urbana, 337-0107 (lower level *Illini Union)*

**The Bread Company**, 705 South Goodwin, Urbana, 383-1007

**Jimmy John's**, 807 South Lincoln, Urbana, 328-3100; 43 East Green, Champaign, 344-6200

**Panera Bread**, 510 East John, 328-0024

**The Pita Pit**, 611 East Green, Champaign, 337-7482

**Subway**, 616 East Green, Champaign, 239-0108; 610 E. Daniel, Champaign, 383-1033

## Thai/Vietnamese

**Basil Thai**, 410 East Green, Champaign, 344-9130

**Pho Tran**, 1106 West University, Urbana, 365-0051

**The Y Eatery**, 1001 South Wright, 344-5040

## Vegetarian

**The Garden Grill @ The Canopy**, 708 South Goodwin, Urbana, 344-2263

**Red Herring Vegetarian Restaurant**, 1209 West Oregon, Urbana, 367-2340

## Sweet Tooth

**Delights**, 1115 West Oregon, Urbana, 337-7982

**Moonstruck Chocolate Bar**, 709 South Wright, Champaign, 367-7402

**The Cookie Jar**, 712 South Sixth, Champaign, 384-5246

# Nightlife

*not within walking distance of the Illini Union*

**Boltini**, 211 North Neil, Champaign, 378-8001

**C-Street**, 63 Chester, Champaign, 356-5607

**Embassy**, 114 South Race, Urbana, 384-9526

**Esquire**, 106 North Walnut, Champaign, 398-5858

**Iron Post**, 120 South Race, Urbana, 337-7678

**Jillian's** 102 South Neil, Champaign, 355-2800

**Jupiter's**, 39 East Main, Champaign, 398-5988

**Mike & Molly's**, 105 North Market, Champaign, 355-1236

**Rose Bowl**, 106 North Race, Urbana, 367-7031

**Two Main**, 2 East Main, Champaign, 359-3148

This list is for information only. It does not serve as a recommendation.

# Things to do in Urbana-Champaign and nearby

### *Campus*

- Altgeld Chimes Tower tour 12:30-1:00 PM weekdays. Enter through 323 Altgeld Hall.
- Arboretum, Lincoln Avenue, Urbana, IL; features Hartley Selections garden, an Ideas garden and a children's garden.
- Illini Union, 1401 W. Green, Urbana. Offers services and facilities to visitors, including a bowling alley, art gallery, video arcade, and billiards hall.
- Japan House tours, 1-4 PM Thursdays.
- John Phillip Sousa Museum, Harding Band Building. Houses the papers, uniforms, instruments, and other personal effects of legendary band leader John Phillip Sousa. By appointment (Ph. 244-9309).
- Krannert Art Museum and Kincaid Pavilion, 500 E. Peabody Dr., Champaign. The second-largest art museum in the state of Illinois, Krannert Art Museum offers over 1,000 works of art from 4,000 BC to the present, including Old Masters, ceramics, sculpture, photography and Asian art. Free admission, 333-1860.
- Krannert Center for Performing Arts; complex of theaters designed by Max Abramowitz, UIUC alumnus and architect of Lincoln Center in New York; teakwood floors and marble accents, with Promenade, an international gift shop with a performing arts theme, and Intermezzo, a European-style pastry bar. Tours 3 PM daily; meet in Main Lobby. 333-6280
- Main Library, sixth largest library in the United States; open Monday-Thursday 8 AM to midnight, Friday-Saturday 8 AM-6 PM, Sunday 1 PM-midnight. Self-guided audiocassette tours are available at the Information Desk, second floor of main library, or Media Center of Undergraduate Library
- Meat Salesroom, 102 Meat Sciences Lab. 1-5:30 PM Tuesday and Thursday, 8 AM-1 PM Friday. Retail outlet for Dept. Animal Sciences federally inspected beef, pork, and lamb.
- Morrow Plots, just east of the Undergraduate Library. The site of the oldest continuous soil fertility experiment in the Western hemisphere

### *Urbana*

- Anita Purvis Nature Center., 505 N. Broadway, Urbana. 8 AM-6 PM Mon-Sat., 12-5 PM Sunday. Trails through Busey Woods, natural history and geology displays, Discovery Room for children.
- Crystal Lake Park, Race and Park Streets, Urbana. Boating, open air concession, playground, sports equipment and playgrounds.
- Farmer's market, Saturday mornings in parking lot of Lincoln Square Mall, Illinois and Broadway. Features fresh fruit and vegetables, Amish pastries, breads, herbs, arts and crafts; musical entertainment.
- Field of Greens miniature golf, inside Lincoln Square Mall; 255-5170. Monday, Tuesday, Thursday, Friday 3:30-9:30 PM, Wednesday 1-9:30 PM, Saturday 10-9:30 PM, Sunday 12-6 PM
- Meadowbrook Park and PrairiePlay, Windsor and Vine Streets, Urbana. Featuring playground, bicycle paths, sculpture garden, and largest municipal reconstructed prairie in the state.

### *Champaign*

- Centennial Park Prairie Farm Petting Zoo, West Kirby Avenue, Champaign. With pettable farm animals such as pigs, ponies, donkeys, rabbits, pigs, chickens, ducks, and geese along with a few nonfarm species such as deer and turtles. Play areas, slide, and wagon rides. Hours 1 PM-8 PM Monday through Friday, noon-8 PM Saturday and Sunday.
- Champaign County Historical Museum, Cattle Bank, 102 E. University, Champaign. In the oldest commercial building in the county, the museum includes replica of turn-of the century grocery store; items from Illinois Central Railroad; period clothing; memorabilia relating to the history of neighboring communities.
- Orpheum Children's Science Museum, 346 N. Neil Street, Champaign. Hands-on children's science museum; featuring "Waterworks," sponsored by U.S. Geological Society. 9 AM-12 PM, 1-5 PM Wednesday; 1-5 PM Thursday–Sunday. Admission $2-3. 352-5895
- Staerkel Planetarium, on the campus of Parkland Community College, 2400 W. Bradley Avenue, second-largest planetarium in the state of Illinois.

### *Arcola/Arthur*

- Amish Interpretive Center, 111 S. Locust St., Arcola. 10 AM – 5:30 PM Monday–Saturday. Admission adults $2/75, children 6-11 $2.25, under 6 free. 888-452-6474 Arthur is the home of the fourth largest Amish community in the U.S.; the Amish Interpretive Center offers Amish museum and video.
- Rockome Garden, 5 miles off I-57 exit 203. Amish theme park with "Old Bagdad" reconstructed turn of the century town, formal gardens, rock (and bottle) sculptures, buggy rides, haunted house, craft and food shops. Open daily 9-5, free admission. 268-4106.

### *Mahomet*

Early American Museum, Lake of the Woods, 1/4 mi north of I-74 on IL 47. Historic collections highlighting local Grand Prairie settlers. "Blacksmithing on the Prairie," Discovery room for children. 10 AM to 5 PM weekends, 586-2612.

### *Monticello*

- Monticello Railroad Museum, frontage road off I-72. Restored Illinois Central depot, with historical artifacts and steam train that runs to the Wabash depot in downtown Monticello.
- Robert Allerton Park, open 8 AM to dusk daily. Modeled after Ham House in England, with 10,000 acres housing formal gardens, sculptures, Georgian mansion, greenhouses, restored prairie and extensive tract of bottomland forest. Designated a National Natural Landmark. "Allerton Legacy" exhibit at Visitors' Center. Garden tours call 333-2127

### *Rantoul*

- Hardy's Evergreen Acres and Reindeer Ranch, 3 mi. west of I-57, ph. 893-3407. Herd of geniune Alaskan reindeer, 4-acre corn maze, Christmas tree farm and store.
- Octave Chanute Air Museum, 1011 Pacesetter Drive, Rantoul. 10 AM-5 PM Friday, Saturday, Monday–Thursday; 12 PM to 4 PM Sunday. 893-1613. Vintage bombers, fighter planes, reconstructed missile silo, cargo planes, and Illinois Military Aviation Hall of Fame.

## Special events in town during Evolution 2002

### *June 28*

Urbana Country Dances Contra Dance, Phillips Recreation Center, 505 W. Stoughton, Urbana. 8-11 pm. $5 admission

Stories at Sunset, Meadowbrook Park, Race Street entrace, Urbana, IL. 8-9:30 pm. $2.

Concert, Hessel Park, Champaign. Music by Mark Foutch Brass Band. 6:30-8:00 pm. 398-2589.

Pink Floyd's Dark Side of the Moon, W.M. Staerkel Planetarium, Parkland College, Champaign. 9:30 pm. 351-2446.

"Murder Among Friends," Studio Theatre, Krannert Center fr Performing Arts, Urbana. 8 pm. 333-6280.

Duke Tumato and the Power Trio, Fat City Saloon, Champaign

Keith Harden, Iron Post, Urbana

The Failures, Hero of the Year, Fallen Star at Canopy Club, Urbana

The Virtues, Mike n' Molly's, Champaign

### *June 29*

Great Annual Rocket Launch, Pick Dodds Park, Champaign. Theme: Rockets of the Corn. 10 am to 4 pm. 359-8225.

Good Vibrations Concert, Garden Hills Park, Champaign. Blues rock music by Jam Nation. 7-8:30 pm. 398-2589.

"Merton at the Movies," Studio Theatre, Krannert Center for Performing Arts, Urbana. 8 pm. 333-6280.

Pink Floyd's Dark Side of the Moon, W.M. Staerkel Planetarium, Parkland College, Champaign. 9:30 pm. 351-2446.

Absinthe Blind, American Cosmonaut, Everybody Uh Oh, Canopy Club, Urbana

### *June 30*

Concert, Hessel Park, Champaign. Swing music by Bruiser and the Virtues, 6:30-8:30 pm.

Weekend Wonders, Anita Purves Nature Center, Urbana. 1-3 pm. 367-1544.

"Educating Rita," Studio Theatre, Krannert Center for Performing Arts, Urbana. 7 pm. 333-6280.

### *July 1*

Lost Strait Jackets, Big Sandy and his Fly-Rite Boys, High Dive, Champaign

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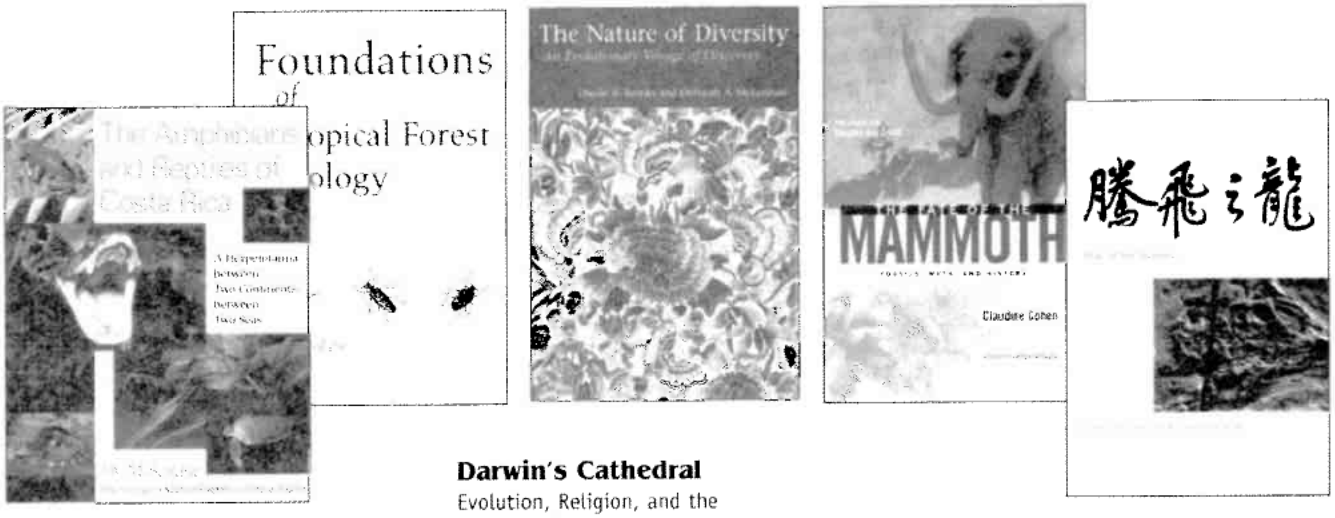


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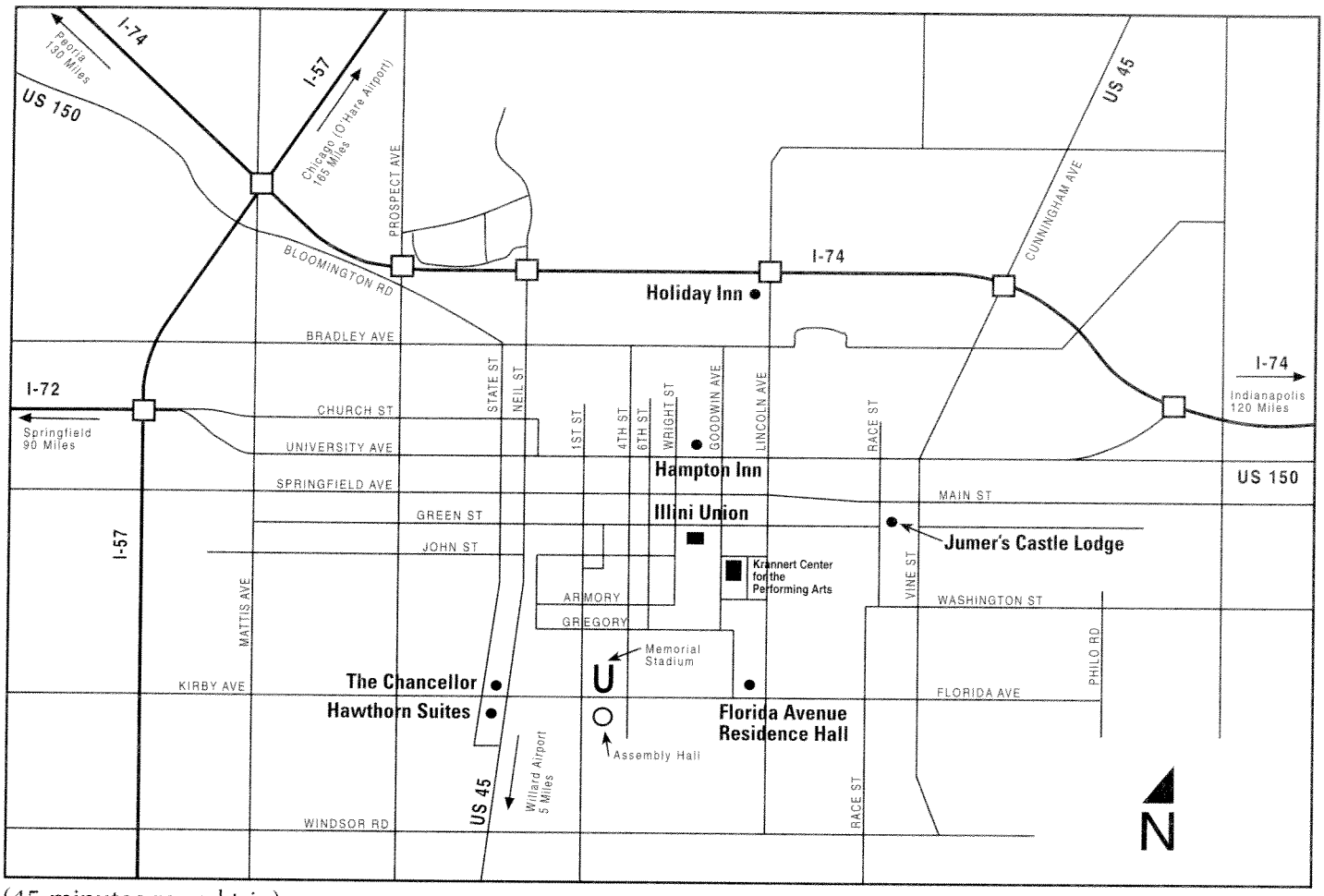


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*6:30 am–10 am*

ROUTE 1: 3 buses running continuously from the Illini Union to Jumers, Holiday Inn, Hampton Inn, The Chancellor, Hawthorn Suites, and Florida Avenue Residence Hall.

ROUTE 2: 2 buses running continuously from the Illini Union to Florida Avenue Residence Hall, Hawthorn Suites, The Chancellor, Hampton Inn, Holiday Inn, and Jumers.

*12 pm–2 pm*

ROUTE 1: 2 buses running continuously from the Illini Union to Jumers, Holiday Inn, Hampton Inn, The Chancellor, Hawthorn Suites, and Florida Avenue Residence Hall.

ROUTE 2: 1 bus running continuously from the Illini Union to Florida Avenue Residence Hall, Hawthorn Suites, The Chancellor, Hampton Inn, Holiday Inn, and Jumers.

*4:30 pm–10 pm*

ROUTE 1: 3 buses running continuously from the Illini Union to Jumers, Holiday Inn, Hampton Inn, The Chancellor, Hawthorn Suites, and Florida Avenue Residence Hall.

ROUTE 2: 2 buses running continuously from the Illini Union to Florida Avenue Residence Hall, Hawthorn Suites, The Chancellor, Hampton Inn, Holiday Inn, and Jumers.

## Sunday, June 30, 2002

*6:30 am–10 am*

ROUTE 1: 3 buses running continuously from the Illini Union to Jumers, Holiday Inn, Hampton Inn, The Chancellor, Hawthorn Suites, and Florida Avenue Residence Hall.

ROUTE 2: 2 buses running continuously from the Illini Union to Florida Avenue Residence Hall, Hawthorn Suites, The Chancellor, Hampton Inn, Holiday Inn, and Jumers.

*12 pm–2 pm*

ROUTE 1: 2 buses running continuously from the Illini Union to Jumers, Holiday Inn, Hampton Inn, The Chancellor, Hawthorn Suites, and Florida Avenue Residence Hall.

ROUTE 2: 1 bus running continuously from the Illini Union to Florida Avenue Residence Hall, Hawthorn Suites, The Chancellor, Hampton Inn, Holiday Inn, and Jumers.

*5:30 pm–10 pm*

ROUTE 1: 3 buses running continuously from the Arboretum to Illini Union, Jumers, Holiday Inn, Hampton Inn, The Chancellor, Hawthorn Suites, and Florida Avenue Residence Hall.

ROUTE 2: 1 bus running continuously from the Arboretum to Illini Union, Florida Avenue Residence Hall, Hawthorn Suites, The Chancellor, Hampton Inn, Holiday Inn, and Jumers..

## Monday, July 1, 2002

*6:30 am–10 am*

ROUTE 1: 3 buses running continuously from the Illini Union to Jumers, Holiday Inn, Hampton Inn, The Chancellor, Hawthorn Suites, and Florida Avenue Residence Hall.

ROUTE 2: 2 buses running continuously from the Illini Union to Florida Avenue Residence Hall, Hawthorn Suites, The Chancellor, Hampton Inn, Holiday Inn, and Jumers.

*12 pm–2 pm*

ROUTE 1: 2 buses running continuously from the Illini Union to Jumers, Holiday Inn, Hampton Inn, The Chancellor, Hawthorn Suites, and Florida Avenue Residence Hall.

ROUTE 2: 1 bus running continuously from the Illini Union to Florida Avenue Residence Hall, Hawthorn Suites, The Chancellor, Hampton Inn, Holiday Inn, and Jumers.

*4:30 pm–11:30 pm*

ROUTE 1: 3 buses running continuously from the Illini Union to Jumers, Holiday Inn, Hampton Inn, The Chancellor, Hawthorn Suites, and Florida Avenue Residence Hall.

ROUTE 2: 2 buses running continuously from the Illini Union to Florida Avenue Residence Hall, Hawthorn Suites, The Chancellor, Hampton Inn, Holiday Inn, and Jumers.

## Tuesday, July 2, 2002

*6:30 am–10 am*

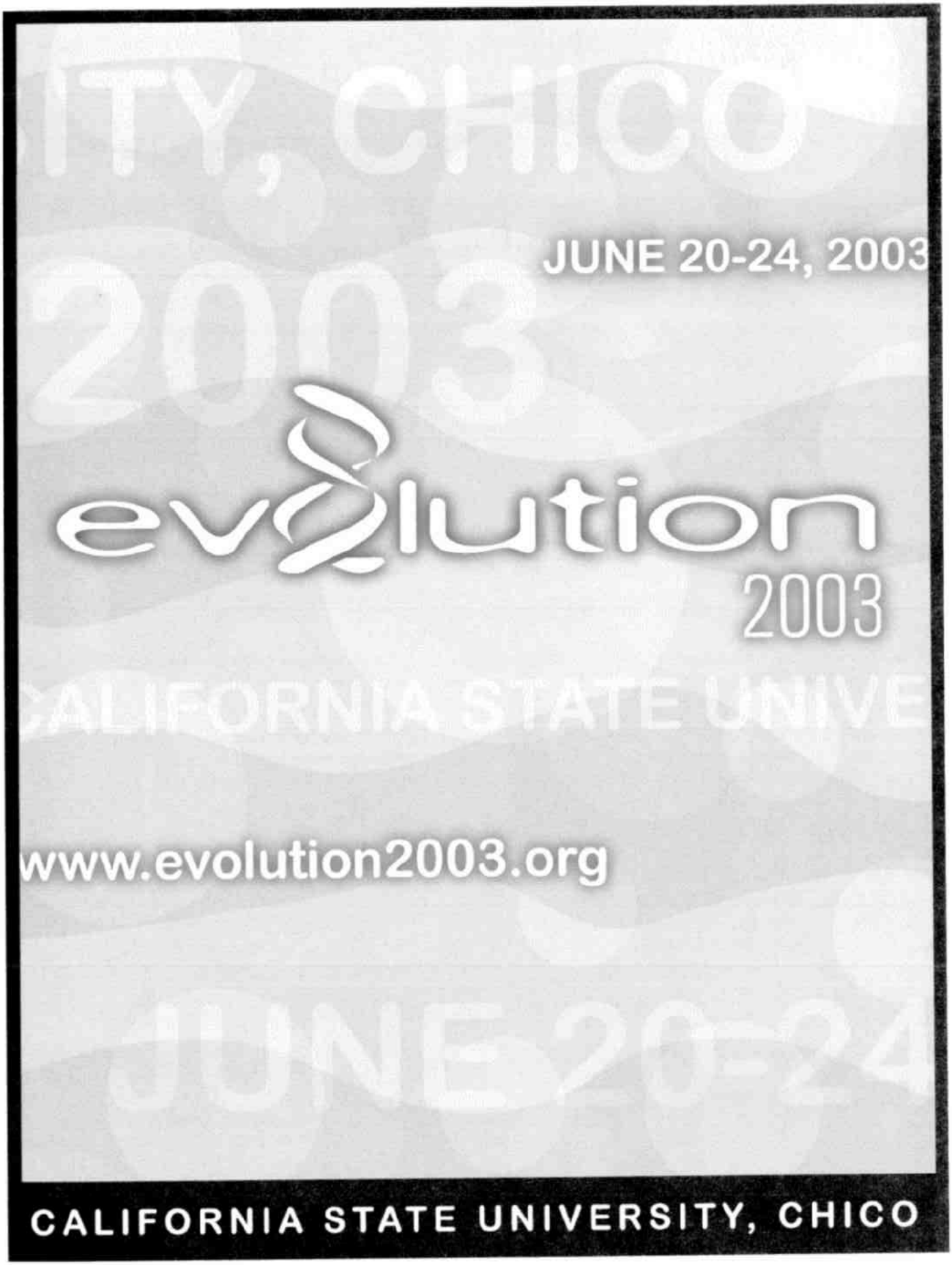
ROUTE 1: 3 buses running continuously from the Illini Union to Jumers, Holiday Inn, Hampton Inn, The Chancellor, Hawthorn Suites, and Florida Avenue Residence Hall.

ROUTE 2: 2 buses running continuously from the Illini Union to Florida Avenue Residence Hall, Hawthorn Suites, The Chancellor, Hampton Inn, Holiday Inn, and Jumers.

*12 pm–10 pm*

ROUTE 1: 2 buses running continuously from the Illini Union to Jumers, Holiday Inn, Hampton Inn, The Chancellor, Hawthorn Suites, and Florida Avenue Residence Hall.

ROUTE 2: 1 bus running continuously from the Illini Union to Florida Avenue Residence Hall, Hawthorn Suites, The Chancellor, Hampton Inn, Holiday Inn, and Jumers.


JUNE 20-24, 2003
evolution
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CALIFORNIA STATE UNIVERSITY, CHICO

## In Memoriam

# Stephen Jay Gould

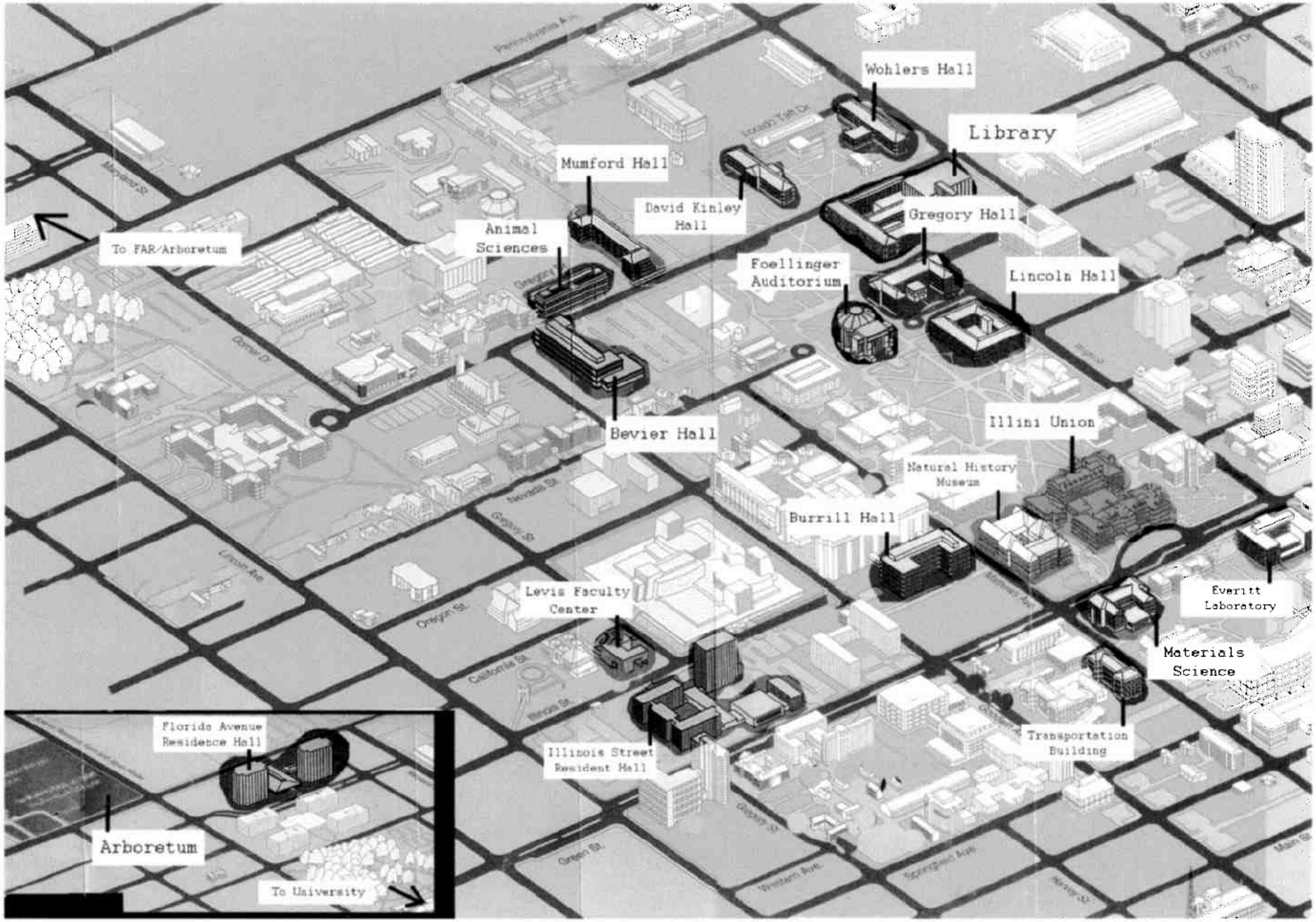
*1941–2002*

courtesy of Harvard Gazette

"I was lucky to wander into evolutionary theory, one of the most exciting and important of all scientific fields. I had never heard of it when I started at a rather tender age; I was simply awed by dinosaurs. I thought paleontologists spent their lives digging up bones and putting them together, never venturing beyond the momentous issue of what connects to what. Then I discovered evolutionary theory. Ever since then, the duality of natural history—richness in particularities and potential union in underlying explanation—has propelled me.

"I think that the fascination so many people feel for evolutionary theory resides in three of its properties. First, it is, in its current state of development, sufficiently firm to provide satisfaction and confidence, yet fruitfully undeveloped enough to provide a treasure trove of mysteries. Second, it stands in the middle in a continuum stretching from sciences that deal in timeless, quantitative generality to those that work directly with the singularities of history. Thus, it provides a home for all styles and propensities, from those who seek the purity of abstraction (the laws of population growth and the structure of DNA) to those who revel in the messiness of irreducible particularity (what, if anything, did Tyrannosaurus do with its puny front legs anyway?). Third, it touches all our lives; for how can we be indifferent to the great questions of genealogy: where did come from and what does it all mean? and then, of course, there are all those organisms: more than a million described species, from bacterium to blue whale, with one hell of a lot of beetles in between—each with its own beauty, and each with a story to tell."

—Stephen Jay Gould, 1980.


Wohlers Hall
Library
Mumford Hall
David Kinley Hall
Gregory Hall
Animal Sciences
To FAR/Arboretum
Foellinger Auditorium
Lincoln Hall
Bevier Hall
Illini Union
Natural History Museum
Burrill Hall
Everitt Laboratory
Levis Faculty Center
Materials Science
Transportation Building
Illinois Street Resident Hall
Florida Avenue Residence Hall
Arboretum
To University