

JOINT MEETING OF
THE AMERICAN SOCIETY OF NATURALISTS
THE SOCIETY OF SYSTEMATIC BIOLOGISTS
THE SOCIETY FOR THE STUDY OF EVOLUTION
AT

SNOWBIRD, UTAH

JUNE 19-23, 1993

MEETING ORGANIZER: ALAN ROGERS

MEETING PROGRAM

SUMMARY SCHEDULE OF EVENTS

SATURDAY, JUNE 19

ASN Board Meeting	2:00 - 5:00 p.m.	Maybird
SSB Council Meeting	2:00 - 5:00 p.m.	Superior A
SSE Council Meeting	2:00 - 5:00 p.m.	Superior B
Registration	1:00 - 8:00 p.m.	Ballroom Lobby
Opening Reception	7:00 - 10:00 p.m.	Ballroom

SUNDAY, JUNE 20

Breakfast	6:30 - 8:00 a.m.	Aerie, Keyhole and Forklift Restaurants
Registration	7:00a.m.- 5:30 p.m.	Ballroom Lobby
Contributed papers	8:00 a.m.- 12:15	see schedule
ASN Symposium: " <i>Sexual Selection in Plants and Animals</i> "	8:00 a.m.- noon	Ballroom 1 and 2
Lunch	12:00 - 1:30 p.m.	Snowbird Event Center
<i>Evolution</i> Associate Editors meeting (take lunch in)	12:15 - 1:30 p.m.	Quadrant 3
ASN Business Meeting (take lunch in)	12:30 - 1:30 p.m.	Quadrant 2
Contributed papers	1:30 - 5:45 p.m.	see schedule
SSB/SSE Symposium: " <i>Phylogenetic Studies of Interspecific Interactions</i> "	1:30 - 5:45	Ballroom 1 and 2
Dinner	6:30 - 7:45	Ballroom
ASN Presidential Address	8:00 - 9:00 p.m.	Cottonwood
Poster Session I	9:00 - 11:00 p.m.	Alpine/Rendezvous
(Refreshments will be served. Session I posters remain on view until noon the following day.)		

MONDAY, JUNE 21

Breakfast	6:30 - 8:00 a.m.	
Registration	7:30a.m.-5:30 p.m.	Ballroom Lobby
Contributed papers	8:00 a.m.- 12:15	see schedule
SSE Symposium: " <i>Wright's Shifting Balance Theory: Sixty Years Later</i> "	8:00 a.m.- noon	Ballroom 1 and 2
Lunch	12:00 - 1:30 p.m.	Snowbird Event Center

SSB Business Meeting (take lunch in)	12:30 - 1:30 p.m.	Quadrant 2
Women in Science Workshop (take lunch in; all welcome)	12:15 - 1:30 p.m.	Quadrant 3
Contributed papers	1:30 - 5:45 p.m.	see schedule
SSE Symposium: <i>"Evolutionary Physiology"</i>	1:30 - 5:45 p.m.	Ballroom 1 and 2
Dinner	6:30 - 7:45	Ballroom
SSE Presidential Address	8:00 - 9:00 p.m.	Cottonwood
Poster Session II	9:00 - 11:00 p.m.	Alpine/Rendezvous
(Refreshments will be served. Session II posters remain on view until noon the following day.)		

TUESDAY, JUNE 22

Breakfast	6:30 - 8:00	Aerie, Keyhole and Forklift Restaurants
Registration	7:30a.m.-5:30 p.m.	Ballroom Lobby
Contributed papers	8:00 a.m.- 12:15	see schedule
SSB Symposium: <i>"Phylogeny with Confidence: Methods for Assessing the Reliability of Phylogenetic Inferences"</i>	8:00 a.m.- noon	Ballroom 1 and 2
Lunch	12:00 - 1:30 p.m.	Snowbird Event Center
SSE Business Meeting (take lunch in)	12:30 - 1:30 p.m.	Quadrant 2
Contributed papers	1:30 - 5:45 p.m.	see schedule
ASN Young Investigators Symposium	1:30 - 5:30 p.m.	Ballroom 1 and 2
Banquet and SSB Presidential Address	7:00 - 9:30 p.m.	Ballroom

WEDNESDAY, JUNE 22

Breakfast	6:30 - 8:00	Aerie, Keyhole and Forklift Restaurants
Contributed papers	8:00 a.m.- 12:15	see schedule
SSE Symposium: <i>"The Evolution of Haploid-Diploid Life Cycles"</i>	8:00 a.m.- noon	Ballroom 1 and 2
SSE Symposium: <i>"Molecular Aspects of Vertebrate Evolution"</i>	8:00 a.m. - noon	Superior

check out by 1:00 p.m.

All the rooms named above are in The Cliff, except that Cottonwood, Quadrants 2 and 3 and lunch are in Snowbird Center. There will be breaks from 10:00 to 10:30 a.m. on Sunday through Wednesday, and from 3:00 to 3:30 p.m. on Sunday through Tuesday. Refreshments will be served in or near the Eagle's Nest, the Golden Cliff, and the Atrium Lounge. The Book Display will take place in the Golden Cliff, and will be open throughout the meeting.

NOTICE TO SPEAKERS AND POSTER PRESENTERS

Speakers: Please check the schedule to find the time and place of your talk. There may have been minor changes. Please note especially that the time allotted to you **includes** the question period, and help our Session Chairs keep the program on schedule.

Notice to all regarding chairing of sessions: If for any reason the designated session chair does not appear, the earliest-scheduled among the remaining speakers is asked to serve as the substitute Chair.

Poster Presenters: In the program below, each poster has been assigned a number corresponding to a reserved space in the Alpine Room in the Snowbird Center. Information on the location of each space, and further details on set up, will be provided at registration. Poster Session I will take place on Sunday evening, 9:00-11:00 p.m. Session I posters may be left on display Monday morning, but must be removed at the lunch hour. Poster Session II will take place on Monday evening, 9:00-11:00 p.m.; these posters may remain on display until lunch hour on Tuesday.

Poster set up times, when supplies and help from the organizers will be available, are as follows:

Session I: Sunday, June 20, beginning at 5:30 p.m. (The room will remain open until the session.)

Session II: Monday, June 21, beginning at 3:00 p.m. (The room will remain open until the session.)

Contributed Paper Session Chairs: Please read the reminder at the end of the program.

SUMMARY SCHEDULE OF CONTRIBUTED PAPER SESSIONS

	BALLROOM (symposia)	SUPERIOR	MAGPIE	WASATCH	MAYBIRD
Sun am I 8-10	ASN Symposium: Sexual Selection in Plants & Animals	Systematic Methods	Plant Hybrid Zones	Genetic Pop. Structure	
Sun am II 10:30-12		Molecular Systematics	Animal Hybrid Zones	Genetic Pop. Structure	
Sun pm I 1:30-3:00	SSE/SSB Symposium: Phylogenetic Studies of Species Interactions	Exptl. Evolution in Chlamydomonas	Speciation	Genetic Pop. Structure	Plants: Inbreeding Depression
Sun pm II 3:30-5:45			Speciation	Genetic Population Structure	Plants: Inbreeding & Mating Systems
Mon am I 8-10:00	SSE Symposium: Wright's Shifting Balance: Sixty Years Later	Molecular Systematics	Growth, Development & Evolution	Sexual Selection	Mating Systems, Plants
Mon am II 10:30-12		Molecular Systematics	Growth, Development & Evolution	Sexual Selection	Reproductive Biology, Plants
Mon pm I 1:30-3:00	SSE Symposium: Evolutionary Physiology	Molecular Systematics	Speciation	Genetic Population Structure	Reproductive Biology, Plants
Mon pm II 3:30-5:45		Molecular Systematics	Speciation	Life History Evolution	Ecol./Quant. Genetics, Plants
Tues am I 8-10:00	SSB Symposium: Phylogeny with Confidence	Pop. & Community Ecology	Mating Systems, Animals	Life History Evolution	Ecol/Quant. Genetics, Plants
Tues am II 10:30-12		Pop. & Community Ecology	Mating Systems, Maintenance of Sex	Life History Evolution	Genetic Population Str., Plants

	BALLROOM (symposia)	SUPERIOR	MAGPIE	WASATCH	MAYBIRD
Tues pm I 1:30-3:00	ASN: Young Investigators Symposium	Ecology; Behavior & Evolution	Molecular Systematics	Ecological & Quantitative Genetics	Evolution of Genes & Proteins
Tues pm II 3:30-5:45		Behavior & Evolution	Phylogeny & character evolution	Ecological & Quantitative Genetics	Evolution of Genes & Proteins
Wed am I 8-10:00	SSE Symposium: Molecular Aspects of Vertebrate Evolution	SSE Symposium: Evolution of Haploid/Diploid Life Cycles	Phylogeny & character evolution	Ecological & Quantitative Genetics	Evolution of Genes & Proteins
Wed am II 10:30-12			Phylogeny & character evolution	Ecological & Quantitative Genetics	Evolution of Genes & Proteins

Note on program design: Every attempt has been made to group similar papers together, and to give speakers their first choice in session topic. Classification of papers is necessarily inexact; to find all papers on a given topic, read the whole program.

SCIENTIFIC PROGRAM (Chronological Order)

SUNDAY MORNING

BALLROOM

ASN VICE-PRESIDENTIAL SYMPOSIUM:
SEXUAL SELECTION IN PLANTS AND ANIMALS
ORGANIZER: S.J. ARNOLD. University of Chicago.

- 8:00 *Introduction to Symposium: S.J. Arnold*
8:15 **M.F. WILLSON.** Forestry Sciences Laboratory, Juneau, Alaska. *Sexual selection in plants and animals: an overview.*
8:50 **D. QUELLAR.** Rice University. *Parental choice and offspring competition: the continuation of sexual selection by other means?*
9:25 **M. STANTON.** University of California at Davis. *When is sexual selection most likely to occur in plants?*
10:00 **BREAK**
10:30 **M. MORGAN.** University of Chicago. *Models of sexual selection in hermaphrodites, especially plants.*
11:05 **A.A. SNOW.** Ohio State University. *Post-pollination mechanisms for sexual selection in plants.*
11:40 **S.J. ARNOLD.** *Bateman's principle in animals and plants.*

SUNDAY MORNING I

SUPERIOR

Contributed papers 1A: SYSTEMATIC METHODS
CHAIR: J.M. GRADY

- 8:00 **KNIGHT, A.**--Louisiana State University Medical Center. *Choosing among hypotheses of rattlesnake phylogeny: a best-fit rate test for DNA sequence data.*
8:15 **BURT, D.B.**--University of Arizona. *Quality of structure in phylogenetic data sets and an analysis of the proposed measures of this structure.*
8:30 **ALROY, J.**--University of Chicago. *A new phylogenetic and biogeographic method: ancestry is parsimonious, reticulations are informative, and continuity should be maximized.*
8:45 **GRADY, J.M.; ROGERS, J.S.**--University of New Orleans. *Tree length skewness from allele frequencies.*
9:00 **HARSHMAN, J.; LANYON, S.M.**--University of Chicago. *In defense of resampling methods, taxonomic congruence, separate data sets and consensus, with an example using anseriform mtDNA sequence data.*
9:15 ✓ **KIM, J.**--University of Arizona. *The character problem with Felsenstein's zone.*

- 9:30 ✓ **POLLOCK, D.; GOLDSTEIN, D.**--Stanford University. *A new method for calculating genetic distance--noise abatement in tree reconstruction.*
- 9:45 ✓ **WIENS, J.J.; REEDER, T.W.; HUELSENBECK, J.P.**--University of Texas at Austin. *Pseudofossils and other incomplete taxa in phylogenetic analysis: to include or not to include.*
- 10:00 **BREAK**

SUNDAY MORNING I

MAGPIE

Contributed papers 1B: PLANT HYBRID ZONES

CHAIR: E.M. MCCARTHY

- 8:00 **ARRIOLA, P.E.**--University of California at Riverside. *Crop-weed gene flow in a wind pollinated system: implications for the evolution of aggressive weedy ecotypes of Johnsongrass (*Sorghum halepense* [L.] pers.)*
- 8:15 **CARNEY, S.E.**--University of Georgia. *Interspecific pollen competition differences in pollen tube growth rates in Louisiana iris.*
- 8:30 **CRUZAN, M.**--University of Georgia. *Ecological and genetic associations in an Iris hybrid population.*
- 8:45 **DEAN, R.; ARNOLD, M.; CRUZAN, M.; ARNOLD, J.**--University of Georgia. *Cytoneuclear disequilibria with rapid markers in hybrid zones.*
- 9:00 **MCCARTHY, E.M.**--University of Georgia. *Recombinational speciation in a hybrid zone.*
- 9:15 **HODGES, S.A; ARNOLD, M.L.**--University of Georgia. *Analysis of an elevational transect through a hybrid zone of *Aquilegia formosa* and *A. pubescens*.*
- 9:30 **WOLF, P.G.; MURRAY, R.A.; SIPES, S.D.**--Utah State University. *A molecular test of secondary intergradation in hybrid zones of *Ipomopsis*.*
- 9:45 **DOLE, J.**--University of Massachusetts. *Gene flow across habitat and species boundaries in a *Mimulus* hybrid zone.*
- 10:00 **BREAK**

SUNDAY MORNING I

WASATCH

Contributed papers 1C: GENETIC POPULATION STRUCTURE IN ANIMALS

CHAIR: M. HELLBERG

- 8:00 **PRAY, L.**--University of Vermont. *Environmental dependency of inbreeding depression: implications for conservation biology.*
- 8:15 **NEIGEL, J.E.**--University of Southwestern Louisiana; **ZINK, R.M.**--University of Minnesota. *Can *Fst* be trusted for mitochondrial DNA?*
- 8:30 **SCHWARTZ, J.M.**--University of Vermont. *Assessing the effects of non-additive genetic variance on the genetic response of populations to bottlenecks.*

- 8:45 **EPPERSON, B.K.**--University of California at Riverside. *Spatial and space-time correlations in spatial time series analyses of systems of subpopulations with genetic drift and migration.*
- 9:00 **SHUSTER, S.M.; SERVICE, P.M.**--Northern Arizona University. *Population subdivision and considerations of scale.*
- 9:15 **SASAKI, A.**--North Carolina State University. *Gene genealogy in a geographically structured population with biased migrations.*
- 9:30 **MCFADDEN, C.S.; AYDIN, K.**--Harvey Mudd College. *Small-scale spatial genetic structure in populations of a clonal soft coral.*
- 9:45 **HELLBERG, M.**--University of California at Davis. *Stepping stones in the sea: gene flow in a philopatric coral.*
- 10:00 **BREAK**

SUNDAY MORNING II

SUPERIOR

Contributed papers 2A: MOLECULAR SYSTEMATICS

CHAIR: E.A. KELLOGG

- 10:30 **BAUM, D.; SYTSMA, K.J.**--University of Wisconsin. *The phylogeny of *Epilobium* (Onagraceae) based on nuclear ribosomal DNA sequences.*
- 10:45 **YOUNG, N.**--Cornell University. *Pacific Coast Iris: chloroplast DNA sequence phylogeny and the history of the group.*
- 11:00 **LI, P.; MICHAUD, M.; BOUSQUET, J.**--University of Laval. *Molecular evolution of plant mitochondrial gene sequences.*
- 11:15 ✓ **KELLOGG, E.A.**--Harvard University. *5S RNA genes are more variable within an individual than between genera.*
- 11:30 **BOUSQUET, J.; SAVARD, L.; STRAUSS, S.H.; CHASE, M.W.; MICHAUD, M.; LI, P.**--University of Laval. *Chloroplast and nuclear gene sequences indicate Permian/Pennsylvanian time for the latest common ancestor of extant seed plants.*
- 11:45 ✓ **DONOGHUE, M.J.**--Harvard University; **MADDISON, D.R.**--University of Arizona. *Do outgroup nucleotide sequences differ from random sequences in rooting angiosperm trees?*
- 12:00 ✓ **BIERMANN, C.H.; MEYER, A.; ORTI, G.**--State University of New York at Stony Brook. *The phylogenetic position of the zebrafish (*Danio rerio*), a model system in developmental biology: an invitation to the comparative method.*

SUNDAY MORNING II

MAGPIE

Contributed papers 2B: HYBRID ZONES IN ANIMALS

CHAIR: J. HILBISH

- 10:30 **BERT, T.M.; ARNOLD, W.S.**--Florida Marine Research Institute. *The nature of selection in a hard clam (*Mercenaria* spp.) hybrid zone: selective forces balance to influence genetic structures.*

- 10:45 **HILBISH, J.; WILHELM, R.**--University of South Carolina. *Population dynamics and natural selection within a hybrid population of two marine mussels in the genus Mytilus.*
- 11:00 **HINDAR, K.**--University of California at Berkeley. *Natural hybridization in salmon: how natural is it?*
- 11:15 **MCMILLAN, W.O.**--University of Hawaii. *MtDNA variation among three closely related butterflyfishes: implications for the role of color pattern in territorial butterflyfishes.*
- 11:30 **SAGE, R.D.**--University of Missouri. *The comparative hybrid zone biology of three leopard frog species (Rana pipiens complex).*
- 11:45 **HATFIELD, T.**--University of British Columbia. *The maintenance of biological diversity: sexual selection against hybrids between a pair of coexisting fish species.*

SUNDAY MORNING II

WASATCH

Contributed papers 2C: GENETIC POPULATION STRUCTURE IN ANIMALS

CHAIR: S.A. KARL

- 10:30 **EDMANDS, S.**--University of California at Santa Cruz. *Genetic variation in brooding sea anemones: a comparison of allozymes and DNA fingerprinting.*
- 10:45 ✓ **NELSON, E.M.; MERCER, J.; INGOLD, J.L.**--Louisiana State University. *Population genetics of a large land planarian Bipalium kewense.*
- 11:00 ✓ **KARL, S.A.**--Rutgers University. *Population genetics and gene flow in the deep-sea-hydrothermal vent clam, Calyptogena magnifica.*
- 11:15 **PALUMBI, S.R.**--University of Hawaii. *Broad-scale population structure in tropical sea urchins: contrasting patterns for mtDNA and nuclear introns.*
- 11:30 **FONG, D.**--American University. *Origin of karst window populations of the amphipod Gammarus minus.*
- 11:45 **PFRENDER, M.E.**--University of Oregon. *Mitochondrial DNA variation in the Daphnia pulex complex.*

SUNDAY AFTERNOON

BALLROOM

SSE & SSB SYMPOSIUM:

PHYLOGENETIC STUDIES OF INTERSPECIFIC INTERACTIONS

ORGANIZERS: B.D. FARRELL. University of Colorado.

D.J. FUTUYMA. State University of New York at Stony Brook.

1:30 *Introduction to Symposium: D.J. Futuyma.*

1:40 ✓ **J.E. STRASSMAN.** Rice University; **J. CARPENTER; M. CHOUDHARY; S. TURILLAZZI.** *Phylogenetic tests of Emery's Rule: are social parasites most closely related to their hosts?*

2:05 **A. BROWER.** Cornell University. *Molecular phylogenetics of parallel race formation in mimetic Heliconius butterflies.*

- 2:30 J. LOSOS. Washington University at St. Louis. *Evolution of community structure in Caribbean Anolis: Phylogenetic hypotheses and microevolutionary tests.*
- 3:00 BREAK
- 3:30 ✓ N. MORAN; C. VON DOHLEN. University of Arizona; P. BAUMANN. University of California at Davis. *Using phylogenies to reconstruct the history of the association between aphids and their bacterial symbionts.*
- 3:55 S. ARMBRUSTER. University of Alaska. *Evolution of relationships between plants, pollinators, and herbivores: ecophylogenetic hypotheses and experimental tests with a euphorb vine.*
- 4:20 J. THOMPSON. Washington State University. O. PELLMYR. University of Cincinnati; J. BROWN. Bucknell University; R. HARRISON. Cornell University. *Evolution of mutualism between the yucca moth family and their hostplants.*
- 4:45 F. SPERLING. University of Ottawa; P. FEENY. Cornell University. *Phylogenetics of host selection behavior in papilionid butterflies: preliminary evidence from the chemistry of oviposition stimulants.*
- 5:10 ✓ B. FARRELL. *Rates of molecular divergence and the relative timing of plant/herbivore evolution.*

SUNDAY AFTERNOON I

SUPERIOR

Contributed papers 3A: EXPERIMENTAL EVOLUTION IN *CHLAMYDOMONAS*
CHAIR: G. BELL

- 1:30 BELL, G.--McGill University. *Long-term response to selection in experimental populations of Chlamydomonas.*
- 1:45 BERNHARDT, T.--McGill University. *The contribution of three genomes to long-term selection in Chlamydomonas reinhardtii.*
- 2:00 XAVIER, R.--McGill University. *Experimental selection for plasticity in relation to temporal and spatial variation.*
- 2:15 ZEYL, C.--McGill University. *Transposon abundance in sexual and asexual populations of Chlamydomonas.*

SUNDAY AFTERNOON I

MAGPIE

Contributed papers 3B: SPECIATION
CHAIR: N. JOHNSON

- 1:30 GREGG, T.G.; BLOOM, J.--Miami University. *A computer simulation model for rapid evolution.*
- 1:45 ETGES, W.J.--University of Arkansas. *Premating isolation is determined by larval substrates in cactophilic Drosophila mojavensis.*
- 2:00 CABOT, E.; DAVIS, A.; WU, CHUNG-I--University of Chicago. *Genetics of hybrid sterility in the D. simulans clade: complex epistasis revealed by DNA mapping.*

- 2:15 **HOLLOCHER, H.; WU, C.-I.**--University of Chicago. *The genetics of hybrid sterility in the Drosophila simulans clade: what about the autosomes?*
- 2:30 **PRICE, D.**--University of Oregon. *Reproductive isolation in two Hawaiian picture-winged flies: analysis of parental and hybrid mating and aggressive behaviors.*
- 2:45 **JOHNSON, N.; WADE, M.**--University of Chicago. *Reproductive isolation in flour beetles! Variation within Tribolium castaneum.*
- 3:00 **BREAK**

SUNDAY AFTERNOON I

WASATCH

Contributed papers 3C: GENETIC POPULATION STRUCTURE IN ANIMALS

CHAIR: G. RODERICK

- 1:30 **SCHNEIDER-BROUSSARD, R.**--University of Southwestern Louisiana. *Two 16s rDNA sequences in Menippe mercenaria and Menippe adina.*
- 1:45 **GERBER, A.S.**--Washington University at St. Louis. *Population structure of the glade endemic, Trimerotropis saxatilis (Acrididae) as determined using coalescent theory.*
- 2:00 **PETERSON, M.A.**--Cornell University. *The role of topography in the population structure of Euphilotes enoptes (Lepidoptera: Lycaenidae).*
- 2:15 **THOMAS, E.P.**--Northern Arizona University. *Do gene flow levels vary as a function of swimming behavior among desert spring amphipod populations?*
- 2:30 ✓ **RODERICK, G.**--University of Maryland at College Park. *Gene flow and genetic drift in meta-populations with different histories.*
- 2:45 **VOGLER, A.**--American Museum of Natural History. *MtDNA and nuclear rDNA sequence divergence in endangered tiger beetle populations.*
- 3:00 **BREAK**

SUNDAY AFTERNOON I

MAYBIRD

Contributed papers 3D: PLANT MATING SYSTEMS
AND INBREEDING DEPRESSION

CHAIR: S. KALISZ

- 1:30 **MILLIGAN, B.G.**--University of Texas at Austin. *Inbreeding depression and the cost of selfing: indirect genetic measures.*
- 1:45 **LATTA, R.G.**--University of Colorado. *Conditions favouring stable mixed mating with jointly evolving inbreeding depression.*
- 2:00 **KALISZ, S.**--Kellogg Biological Station; **KARKKAINEN, K.**--University of Oulu; **THIEDE, D.**--Kellogg Biological Station; **HOLTSFORD, T.**--University of Missouri. *Variance in mating system and inbreeding depression among populations of Collinsia verna.*

- 2:15 **MAYER, S.**--University of Chicago. *A study of inbreeding depression in relation to the inbreeding coefficient in the annual plant *Collinsia heterophylla*.*
- 2:30 **DUDASH, M.R.**--University of Maryland; **CARR, D.E.**--American University; **FENSTER, C.B.**--University of Maryland. *Changes in inbreeding depression over 5 generations of enforced selfing in *Mimulus guttatus*.*
- 2:45 **CARR, D.E.**-- American University; **DUDASH, M.R.**--University of Maryland. *Inbreeding depression in two species of *Mimulus* with contrasting mating systems.*
- 3:00 **BREAK**

SUNDAY AFTERNOON I

MAGPIE

Contributed papers 4B: SPECIATION

CHAIR: J. DUFFY

- 3:30 **SHAW, K.L.**--Cornell University. *Rapid song evolution and a test of reproductive character displacement in a Hawaiian cricket.*
- 3:45 **RICHARDS, M.M.**--Victoria University of Wellington. *Chromosome variation in a New Zealand tree weta, *Hemicleina thoracica* (Orthoptera: Stenopelmatidae).*
- 4:00 **MOUSSEAU, T.A.**--University of South Carolina. *The genetics of male calling song and female mate choice in six cricket populations.*
- 4:15 **DUFFY, J.E.**--University of California at Davis. *Host race speciation in coral reef shrimp: a comparison of sympatric vs. allopatric divergence.*
- 4:30 ✓ **METZ, E.C.**--University of Hawaii. *Molecular evolution of bindin, a sperm-egg recognition protein involved in reproductive isolation.*
- 4:45 ✓ **TREWICK, S.A.**--Victoria University of Wellington. *Two types of takahe (*Porphyrio mantelli*): parallel evolution of a flightless rail.*
- 5:00 **HALE, D.W.**--Yale University. *A cytogenetic basis for Haldane's rule of hybrid sterility in mammals.*
- 5:15 **GILLESPIE, R.G.**--University of Hawaii. *Are species truly monophyletic?*
- 5:30 **HOELZER, G.A.**--University of Nevada at Reno. *Patterns of speciation and limits to phylogenetic resolution.*

SUNDAY AFTERNOON II

WASATCH

Contributed papers 4C: GENETIC POPULATION STRUCTURE IN ANIMALS

CHAIR: G. ORTI

- 3:30 **ARMBRUSTER, P.**--University of Oregon. *Heterosts and outbreeding depression in the pitcher-plant mosquito, *Wyeomyia smithii*.*
- 3:45 **MORRISSEY, J.; MEYER, A.; BLOCK, B.; GRAVES, J.**--State University of New York at Stony Brook. *Analysis of blue marlin, *Makaira nigricans*, population structure using mtDNA d-loop sequences.*

- 4:00 **ORTI, G.**--State University of New York at Stony Brook. *Global survey of mitochondrial DNA sequences in the threespine stickleback: evidence for recent migrations.*
- 4:15 **FISHER, R.N.**--University of California at Davis. *Gene flow in oceanic geckos: can we test the human commensal hypothesis?*
- 4:30 **SCRIBNER, K.T.; BURKE, T.**--U.S. Department of the Interior, Fish and Wildlife Service. *Single- and multi-locus VNTR loci in analyses of gene flow and spatial structuring in natural vertebrate populations.*
- 4:45 **TRAVIS, S.E.**--Northern Arizona University. *An assessment of population structure in Gunnison's prairie dog (*Cynomys gunnisoni*) by DNA fingerprinting.*
- 5:00 **BROWNE, R.**--Wake Forest University. *Mountaintops as islands: genetic variation of small mammal populations of the Southern Appalachians.*
- 5:15 **BUTLER, M.A.**--Washington University. *Lessons from a captive population, *Gazella spekei*: coefficients of kinship, inbreeding and eigenvalue effective size from DNA fingerprinting and pedigree analysis.*
- 5:30 **WOODING, S.**--University of Utah. *Sympatric populations of black bears and grizzly bears from Montana exhibit very different patterns of mitochondrial sequence diversity.*

SUNDAY AFTERNOON II

MAYBIRD

Contributed papers 4D: PLANT MATING SYSTEMS
AND INBREEDING DEPRESSION
CHAIR: S. STEWART

- 3:30 **RITLAND, K.; FU, Y.-B.**--University of Toronto. *Marker based inferences about genes controlling inbreeding depression in *Mimulus guttatus*.*
- 3:45 **BYERS, D.**--Rutgers University. *Effect of cross proximity on progeny fitness in rare and common species of *Eupatorium*.*
- 4:00 **PARKER, I.M.**--University of Washington at Seattle. *Mating system, reproductive biology, and inbreeding depression in two sympatric species of *Epilobium*.*
- 4:15 **DONOHUE, K.**--University of Chicago. *Inbreeding depression in traits that influence seed dispersal.*
- 4:30 **SHERRY, R.A.**--University of California, Riverside. *Developmental stability in selfing and outcrossing populations of *Clarkia tembloriensis*.*
- 4:45 **STEWART, S.**--University of Guelph. *Mating system variation exists within natural populations of *Impatiens pallida*, but heritabilities are low and constrain the expected response to selection.*

- 5:00 **MANICACCI, D.**--University of Toronto. *Spatial structuration of nuclear restorer genes involved in sex determination in a gynodioecious species *Thymus vulgaris* in France.*
- 5:15 **VEKEMANS, X.**--University of California, Berkeley. *Genealogies of genes and alleles at a one-locus gametophytic self-incompatibility system.*
- 5:30 **FOX, G.A.**--University of Arizona. *Population genetics of flowering time: mating pool structure, assortative mating and selection.*

SUNDAY EVENING

COTTONWOOD

ASN PRESIDENTIAL ADDRESS 8:00-9:00 p.m.
DR. RAYMOND HUEY, University of Washington
"Temporal scale and the evolution of physiology"

SUNDAY 9:00-11:00 PM

ALPINE/RENDEZVOUS

POSTER SESSION I

The poster sessions will be accompanied by complimentary refreshments.

1. **ELAM, D.R.**--University of California at Riverside. *Spatial distribution of clones in endangered *Eriodictyon capitatum* Eastw. (Hydrophyllaceae).*
2. **VANDERMEULEN, M.A.; HUDSON, A.J.; SCHEINER, S.M.**--Northern Illinois University. *Three evolutionary hypotheses for the humped-shaped productivity-diversity curve.*
3. **CARR, T.G.; ROININEN, H.**--Northern Arizona University. *A phylogenetic component in the population dynamics of 350 lepidopteran species followed over 12 years.*
4. **LOFSVOLD, D.**--Franklin & Marshall College. *Population size and migration in the milkweed beetle *Tetraopes tetraophthalmus*.*
5. **PARMAN, A.**--University of Illinois at Chicago. *Sex is beneficial in a temporally changing environment.*
6. **RODD, H.**--York University; **REZNICK, D.**--University of California at Riverside. *Demographic variation in Trinidadian guppies: effects of size-selective predation.*
7. **TANEYHILL, D.E.**--State University of New York at Stony Brook. *Re-defining delayed density dependence in oscillating populations.*
8. **ELLIOTT, P.E.**--Eastern Connecticut State University. *Patterns of parasitic infection in North American migrant songbirds and their relationship to sexual selection theory.*
9. **TREWICK, S.A.**--Victoria University. *Origins of sexual dimorphism; the case of the not-so flightless parrot (kakapo, *Strigops habroptilus*).*
10. **DAVIS, R.; CONNER, J.**--University of Illinois at Champaign. *Factors affecting pollen removal and deposition by cabbage butterflies (*Pieris rapae*) on wild radish (*Raphanus raphanistrum*).*
11. **NEUMEIER, R.; CONNER, J.**--University of Illinois at Champaign. *Variability in pollinator visitation to black mustard, *Brassica nigra*.*

12. **VARGAS, C.F.**--Ciudad University, Mexico. *Genetic structure and mating system evolution in Phaseolus coccineus L.*
13. **SANDRINE, M.**--University of Arizona. *Trioecy in the cactus Pachyareus pringlei: links with nuclear and nuclear-cytoplasmic models of reproductive systems.*
14. Canceled
15. **HAZEL, W.; SMOCK, R.**--DePauw University. *Modeling optimal switchpoints underlying conditional strategies in temporally varying environments.*
16. **SEITZ, A.**--University of Mainz, Germany. *Variation of clonal diversity of Daphnia in space and time.*
17. **BERRIGAN, D.; SEGER, J.**--University of Utah. *Information and allometry.*
18. **KONDRASHOV, A.S.**--Cornell University. *Mutation load under vegetative reproduction and cytoplasmic inheritance.*
19. **RICHARDSON, C.; CLAY, K.**--Indiana University. *The effect of resource level on gender expression in North American Arisaema.*
20. **DYER, A.R.**--University of California at Davis. *Genetic relatedness and spatial distribution in Stipa pulchra.*
21. **WOLCZYK, D.**--University of Chicago. *PCR-RFLP analysis of symbioses: lichens in the genus Lobaria.*
22. **ELLNER, S.**--North Carolina State University. *Genetic and phenotypic variance maintained by fluctuating selection with overlapping generations.*
23. **JINGZHONG, L.; RITLAND, K.**--University of Toronto. *Mapping of genes controlling mating system differences in Mimulus using RAPD markers.*
24. **VEENSTRA, K.H.; OTTEA, J.; PASHLEY, D.P.**--Louisiana State University. *The role of mixed-function oxidases in host plant adaptation in the fall armyworm: the results of selection experiments.*
25. **BIELAWSKI, J.P.; PUMO, D.F.**--Hofstra University. *Optimization of randomly amplified polymorphic DNA (RAPD) and analysis of Atlantic coast striped bass populations.*
26. **MCDONALD, D.B.; POTTS, W.K.; FITZPATRICK, J.W.; WOLFENDEN, G.E.**--University of Florida. *Microsatellite-based analysis of genetic structure in scrub jay populations.*
27. **SWENDER, L.A.; BORNBUSCH, A.H.; HOOGERWERF, D.L.**--Smith College. *Population genetics of two Cypripedium Linnaeus (Orchidaceae) species: ram's head (C. arietinum Brown) and pink (C. acaule Aiton) lady's slipper orchids.*
28. **FARMER, J.L.**--Brigham Young University. *Genetic diversity in relict Drosophila pseudoobscura populations of the Colorado Plateau.*
29. **PIERCE, V.; CRAWFORD, D.L.**--University of Chicago. *Difference in metabolic flux between populations.*
30. **RIDDLE, B.R.; ORANGE, D.I.; NICKLE, D.C.**--University of Nevada at Las Vegas. *Comparative phylogeographic structure in North American arid-lands: the effect of spatial scale on levels of congruence among rodents and lizards.*

31. ✓ ZAWADZKI, P.--Wesleyan University. *Relationship between sequence divergence and sexual isolation between Bacillus species.*
32. ✓ HSIAO, C.; CHATTERTON, N.J.; ASAY, K.H; JENSEN, K.B.; MATOS, J.A.--Utah State University. *Phylogenetic relationships of the monogenomic species of the wheat tribe, Triticeae, inferred from sequences of the internal transcribed spacer region in nuclear ribosomal DNA.*
33. LEE, W.-J.; KOCHER, T.D.--University of New Hampshire. *Molecular characterization of sea lamprey mitochondrial DNA.*
34. REMSEN, J.F.; PUMO, E.--Hofstra University; PHILLIPS, C.J.; KIM, I.--Illinois State University. *Resolving intra- and interspecies relationships of island populations of the neotropical fruitbat, Artibeus.*
35. SPINKA, T.L.; DAWLEY, R.M.--Ursinus College. *Interpopulation variation in DNA content of the red-back salamander, Plethodon cinereus.*
36. SMITH, J.J.--Michigan State University. *Characterization of random amplified polymorphic DNA (RAPD) products from Xanthomonas campestris: phylogenetic implications.*
37. FORNARI, C.--DePauw University. *Polymerase chain reaction (PCR) amplification of highly conserved homeobox genes from plant and animal species.*
38. GILLESPIE, R.G.; PALUMBI, S.R.--University of Hawaii at Manoa; CROOM, H.B.; MCDONALD, W.H.--University of the South. *Multiple introductions of a single spider genus to the Hawaiian Islands.*
39. LAMB, T.--East Carolina University. *Molecular systematics of the map turtles (Graptemus): a comparison of mitochondrial restriction site versus sequence data.*
40. MOORE, W.S.; DOUGHERTY, J.D.; PRYCHITKO, T.M.--Wayne State University. *Species trees and mtDNA haplotype trees: is lineage sorting a problem in phylogenetic analysis?*
41. DOMINGUEZ, C.A.--UNAM. *Floral shape evolution in six species of the Rosaceae family: an ecological and phylogenetic analysis.*
42. McPEEK, M.A.--Dartmouth College. *Morphological evolution mediated by behavior in the damselflies of two communities.*
43. GARRIGAN, D.A.--University of Utah; BOWERS, M.D.--University of Colorado; CARLING, D.--University of Utah. *Metabolic cost of feeding on toxic diets and the evolution of herbivore host specialization.*
44. YAN, G.--University of Vermont. *The fitness effect of tapeworm infection (Cestoda: Hymenolepis diminuta) in its Tribolium host.*
45. PRITCHARD, J.--Pennsylvania State University. *Some theoretical consequences of genetic hitchhiking on polymorphism and the substitution of nearly neutral variation.*
46. BUCHORI, D.--Indiana University. *Mating handicap: the effect of population subdivision on the dynamics of son-killer bacteria.*
47. STANLEY, S.--University of California at Davis . *Allozyme and mtDNA variation in the California tiger salamander (Ambystoma californiense).*

MONDAY MORNING**BALLROOM****SSE SYMPOSIUM:****WRIGHT'S SHIFTING BALANCE THEORY: SIXTY YEARS LATER****ORGANIZERS:** P. PHILLIPS. University of Texas at Arlington;

J. CROW. University of Wisconsin;

M. WADE. University of Chicago

- 8:30 *Introduction to the symposium: J. CROW. General features of the theory and a historical perspective.*
- 9:00 **P. PHILLIPS.** *Kickstarting the shifting-balance process: phase zero.*
- 9:30 **M. WHITLOCK.** University of Edinburgh. *Variance and the shifting-balance.*
- 10:00 **BREAK**
- 10:30 ✓ **S. ROUHANI.** Sarif University of Technology. *Shifting balance and the island model.*
- 11:00 ✓ **M. WADE.** *Experimental studies of the shifting balance.*
- 11:30 ✓ **S. TONSOR; F. MOORE.** Michigan State University. *Evidence for the shifting balance process: what is it and who has it?*

MONDAY MORNING I**SUPERIOR****Contributed papers 5A: MOLECULAR SYSTEMATICS****CHAIR: R. ABSHER**

- 8:00 **HUELSENBECK, J.P.**--University of Texas at Austin. *A reexamination of tetrapod phylogeny using the parametric bootstrap.*
- 8:15 **PORTER, C.A.**--Wayne State University School of Medicine; **SAMPAIO, I.; SCHNEIDER, H.**--Federal University of Pará, Brazil; **STANHOPE, M.J.; GOODMAR, M.**--Wayne State University School of Medicine. *Evidence on primate phylogeny from epsilon globin sequences.*
- 8:30 **ABSHER, R.**--American Museum of Natural History. *Comparison of Lemur ring distributions at the species and subspecies level.*
- 8:45 **YODER, A.D.**--Harvard University. *Molecules and morphology together reveal strepsirhine phylogeny.*
- 9:00 **NEDBALL, M.A.; HONEYCUTT, R.L.**--Texas A&M University. *Molecular systematics of hystricognathid rodents.*
- 9:15 **MUSTRANGI, M.A.; LARA, M.**--University of California at Berkeley. *Geographic variation in cytochrome-b sequence of mouse opossums (*Marmosops incanus*) from the Atlantic Coast rainforest in Brazil.*
- 9:30 **LARA, M.C.**--University of California at Berkeley. *Phylogeny of spiny rats (*Proechimys*, subgenus *Trinomys*) from the Atlantic forest of Brazil.*
- 9:45 **VRANA, P.B.**--American Museum of Natural History. *Carnivore molecular systematics: arctoid relationships and placement within Eutheria.*

10:00 BREAK

MONDAY MORNING I

MAGPIE

Contributed papers 5B: GROWTH, DEVELOPMENT AND EVOLUTION

CHAIR: J. HANKEN

- 8:45 GRABOWSKY, G.--University of Hawaii. *Morphological space-time transformation: constructing a peanut M&M shaped sea urchin from a plain M&M shaped ancestor.*
- 9:00 HANKEN, J.--University of Colorado. *Direct development in amphibians: consequences of life-history evolution for cranial ontogeny.*
- 9:15 JENNINGS, D.--University of Colorado. *Developmental basis of trophic specialization in *Lepidobatrachus laevis*, an anuran with an obligately carnivorous tadpole.*
- 9:30 ZELDITCH, M.L.; FINK, W.L.--University of Michigan. *Evolutionary patterns of shape, allometry and developmental integration of piranhas.*
- 9:45 ROUTMAN, E.J.; CHEVERUD, J.M.--Washington University School of Medicine. *The genetic architecture of complex traits: a quantitative trait locus study of growth in mice.*
- 10:00 BREAK

MONDAY MORNING I

WASATCH

Contributed papers 5C: SEXUAL SELECTION IN ANIMALS

CHAIR: G.S. WILKINSON

- 8:30 POLAK, M.--Arizona State University. *Parasites, fluctuating asymmetry, and sexual selection.*
- 8:45 WILKINSON, G.S.--University of Maryland at College Park. *Correlated responses to artificial sexual selection on eye span in the stalk-eyed fly *Cyrtodropsis dalmanni*.*
- 9:00 WHITTIER, T.S.--University of Hawaii. *Intersexual selection in the mediterranean fruit fly: does female choice enhance fitness?*
- 9:15 PRADOS, A.B.--University of Autonoma, Spain. *Mating pattern and fitness component analysis associated with inversion polymorphism in a natural population of *Drosophila buzzatii*.*
- 9:30 PITNICK, S.--Arizona State University; MARKOW, T.--Center for Insect Science, Tucson, Arizona. *Costs of making big sperm and sperm size evolution.*
- 9:45 COLLINS, D.--McGill University. *Competitive differences between the mating types of *Chlamydomonas reinhardtii*.*
- 10:00 BREAK

MONDAY MORNING I**MAYBIRD****Contributed papers 5D: PLANT MATING SYSTEMS AND
REPRODUCTIVE BIOLOGY****CHAIR: G.G. ECKERT**

- 8:00 **RALSTON, B.**--Northern Arizona University. *Using phylogenetic analysis and comparative sex allocation studies of Lithospermum species to test models of heterostyly's evolution.*
- 8:15 **PORTER, J.M.**--University of Arizona. *Evolution of breeding systems in Gilia section Giliandra (Polemoniaceae): a phylogenetic approach.*
- 8:30 **EGUIARTE, L.E.; LARSON, J.; PARRA, V.; VARGAS, F.**--UNAM, Mexico. *Evolutionary ecology of Echeveria gibbiflora (Crassulaceae): demography, reproductive biology and neighborhood size.*
- 8:45 **ECKERT, C.G.** Queen's University; **BARRETT, S.C.H.**--University of Toronto. *Style morph ratios in tristylous Decodon verticillatus (Lythraceae): selection vs. historical contingency.*
- 9:00 **MARSHALL, D.L.**--University of New Mexico. *Does nonrandom mating occur in field as well as greenhouse plants of wild radish.*
- 9:15 **WHITTON, J.**--University of Texas. *On the relationship between gametophytic apomixis and polyploidy in flowering plants.*
- 9:30 **CONNER, J.K.**--University of Illinois. *Studies of plant-pollinator interactions in a crucifer.*
- 9:45 **HARDER, L.D.**--University of Calgary. *Functional aspects of poricidal anthers: resolving the conflict between pollen as reward and gamete.*
- 10:00 **BREAK**

MONDAY MORNING II**SUPERIOR****Contributed papers 6A: MOLECULAR SYSTEMATICS****CHAIR: J.P. SLATTERY**

- 10:30 **SLATTERY, J.P.; JOHNSON, W.; O'BRIEN, S.**--National Cancer Institute. *Phylogenetic reconstruction of South American felids defined by protein electrophoresis.*
- 10:45 **WAITS, L.**--University of Utah. *The estimation of a phylogeny for the Ursidae by sequencing multiple regions of mitochondrial DNA.*
- 11:00 **ADKINS, R.M.; HONEYCUTT, R.L.**--Texas A&M University. *Evolution of the primate cytochrome c oxidase subunit II gene.*
- 11:15 **DRISKELL, A.C.**--Southern Illinois University. *Molecular systematics of dasyurid marsupials.*
- 11:30 **CACCONE, A.; MILINKOVITCH, M.C.; SBORDONI, V.; POWELL, J.R.**--Yale University. *Ribosomal mt-DNA variation in European newts (Euproctus, Triturus) and calibration of mt-rDNA rates using the Corsica-Sardinia disjunction.*

- 11:45 **JACKMAN, T.R.; WAKE, D.B.**--University of California at Berkeley. *Phylogenetics of European and North American bolitoglossine salamanders based on analysis of mtDNA sequence data.*
- 12:00 **SCHNEIDER, C.J.**--University of California at Berkeley. *Mitochondrial DNA phylogeny and patterns of diversification in the Anolis marmoratus complex.*

MONDAY MORNING II **MAGPIE**

Contributed papers 6B: GROWTH, DEVELOPMENT AND EVOLUTION
CHAIR: S.F. CRAIG

- 10:30 **WAGNER, D.L.**--University of Connecticut. *Metamorphosis in the Gracillariidae (Lepidoptera): heterochrony and phylogenetic constraint.*
- 10:45 **DYRESON, E.**--University of Arizona. *Evolution of wing morphology in the genus Drosophila.*
- 11:0 **CRAIG, S.F.**--State University of New York at Stony Brook. *The development and physiology of fusion in a marine bryozoan.*
- 11:15 **LEHMAN, C.L.**--University of Minnesota. *Whole-number ratios in leaf placement and optimal light capture in plants.*

MONDAY MORNING II **WASATCH**

Contributed papers 6C: SEXUAL SELECTION IN ANIMALS
CHAIR: D. ZEH

- 10:30 **ZEH, J.A.**--Smithsonian Tropical Research Institute. *Charomid cloning vectors meet the Pedipalpal Chelae: molecular genetic analysis of sexual selection and multiple paternity in the harlequin beetle riding pseudoscorpion.*
- 10:45 **ZEH, D.W.**--Smithsonian Tropical Research Institute. *When morphology misleads: interpopulation uniformity in sexual selection masks genetic divergence of harlequin beetle riding pseudoscorpion populations.*
- 11:00 **LYON, B.E.; EADIE, J.M.**--University of Toronto. *Parental choice selects for ornamental plumage in American coot chicks.*
- 11:15 **MCDONALD, D.B.; POTTS, W.K.**--University of Florida. *Microsatellite DNA analysis of relatedness among cooperating male manakins.*
- 11:30 **BLEIWEISS, R.**--University of Wisconsin at Madison. *Convergent plumage color among monomorphic lekking birds.*
- 11:45 **ABLE, D.J.**--Cornell University. *Correlates to mating success in the red-spotted newt, Notophthalmus viridescens.*

MONDAY MORNING II **MAYBIRD**

Contributed papers 6D: PLANT REPRODUCTIVE BIOLOGY
CHAIR: T.P. SPIRA

- 10:30 **WILSON, P.**--State University of New York at Stony Brook. *Drosera tracyi and the strength of selection at various levels of pollination.*

- 10:45 SPIRA, T.P.--Clemson University; SNOW, A.A.--Ohio State University; LELLO, D.--University of Washington at Seattle. *Effects of pollen load size on offspring vigor in Hibiscus moscheutos.*
- 11:00 BRUNET, J.; CHARLESWORTH, D.--Oregon State University. *Floral sex allocation in sequentially blooming plants.*
- 11:15 FENSTER, C.B.--University of Maryland; CARR, D.E.--American University. *Inheritance of resource allocation to pollen and ovules in Mimulus (Scrophulariaceae).*
- 11:30 EMMS, S.--Princeton University. *Factors controlling female fitness in Zigadenus paniculatus, an andromonoecious lilly.*
- 11:45 DELESALLE, V.--Emory University; MAZER, S.--University of California at Santa Barbara. *The structure and significance of phenotypic variation in floral traits within and among populations of a selfing annual.*
- 12:00 GIBSON, J.P.--University of Colorado. *Population genetics and breeding system of a gynodioecious tree: relationships with floral structure.*

MONDAY AFTERNOON

BALLROOM

SSE SYMPOSIUM: EVOLUTIONARY PHYSIOLOGY

ORGANIZERS: R. HUEY. University of Washington;

L. HARSHMAN. University of California at Davis

- 1:30 *Introduction to symposium:* R. Huey.
- 1:35 T. GARLAND, JR. University of Wisconsin at Madison. *Analysis of physiological evolution in a phylogenetic framework.*
- 1:58 B. BLOCK. University of Chicago. *Evolution of endothermy in fish: mapping physiological and morphological traits on a molecular phylogeny.*
- 2:21 T. DAWSON. Cornell University. *The evolution of physiology in sexually dimorphic plants.*
- 2:44 M. GEBER. Cornell University. *Natural selection and genetic variation for performance traits in wild plant populations.*
- 3:07 **BREAK**
- 3:30 M. LYNCH. University of Oregon. *Evolution and extinction in response to environmental change.*
- 3:53 J. GRAVES, JR. University of California at Irvine. *Physiology and laboratory evolution in the genus Drosophila.*
- 4:16 A. BENNETT; A. LEROI; R. LENSKI. University of California at Irvine. *Phenotypic and evolutionary adaptation to high temperature in the bacterium Escherichia coli.*
- 4:39 A. CLARK. Penn State University. *Evolution of metabolic regulation.*
- 5:02 A. ZERA. University of Nebraska at Lincoln. *Hormonal basis of complex polymorphisms in insects.*
- 5:25 L. HARSHMAN. *Starvation resistance in Drosophila melanogaster.*

MONDAY AFTERNOON I**SUPERIOR**

Contributed papers 7A: MOLECULAR SYSTEMATICS

CHAIR: C. KRAJEWSKI

- 1:30 **ESPINOSA, A.; CRACRAFT, J.**--American Museum of Natural History. *Phylogenetic position of the Lyra-bird (Menuridae: Aves) based on Cytochrome b sequences.*
- 1:45 **HACKETT, S.J.; CRACRAFT, J.**--American Museum of Natural History. *Speciation and historical biogeography of birds of paradise (Paradisaea).*
- 2:00 **KLEIN, N.K.; PAYNE, R.B.**--University of Michigan. *Molecular phylogenetic perspective on speciation in the brood parasitic Vidua finches.*
- 2:15 **KRAJEWSKI, C.**--Southern Illinois University. *Phylogeny of cranes (Aves: Coruidae) based on cytochrome-b DNA sequences.*
- 2:30 **NUNN, G.; CRACRAFT, J.**--American Museum of Natural History. *Relationships among the major lineages of birds-of-paradise inferred from mtDNA sequences.*
- 2:45 **OMLAND, K.**--State University of New York at Albany. *Congruence between a molecular and a morphological phylogeny for ducks (Anas spp.).*
- 3:00 **BREAK**

MONDAY AFTERNOON I**MAGPIE**

Contributed papers 7B: SPECIATION

CHAIR: M.F. SMITH

- 1:30 **SMITH, M.F.; PATTON, J.L.**--University of California, Berkeley. *Paraphyly, polyphyly, and the nature of species boundaries in pocket gophers (genus Thomomys).*
- 1:45 **CHIPPINDALE, P.**--University of Texas at Austin. *Species boundaries, species concepts, and conservation issues in a geographically fragmented assemblage, the nontransforming salamanders of central Texas (Eurycea).*
- 2:00 **MCKNIGHT, M.L.**--University of California at Davis. *Mitochondrial DNA sequence phylogeny of pocket mice: testing predictions from geology and paleontology.*
- 2:15 **MASON, R.J.; HOLSINGER, K.E.; JANSEN, R.K.**--University of Connecticut. *Chloroplast DNA restriction site analysis of Coreopsis nuecensoides and C. nuecensis (Asteraceae), a progenitor-derivative species pair.*
- 2:30 ✓ **COHAN, F.M.**--Wesleyan University. *Is divergence among Bacillus species constrained by genetic exchange?*

- 2:45 **KNOWLTON, N.**--Smithsonian Tropical Research Institute. *Divergence in proteins, mtDNA, and reproductive compatibility across the Isthmus of Panama.*
- 3:00 **BREAK**

MONDAY AFTERNOON I

WASATCH

Contributed papers 7C: GENETIC POPULATION STRUCTURE IN ANIMALS

CHAIR: P.A. MORIN

- 1:30 ✓ **ROY, M.S.**--University of California at Los Angeles. *Use of hypervariable nuclear markers to assess wolf and coyote population genetics.*
- 1:45 ✓ **MORIN, P.A.; CHAKRABORTY, R.; JIN, L.; MOORE, J.J.; WALLIS, J.; WOODRUFF, D.S.**--University of Oregon. *Non-invasive sampling and DNA genotyping for paternity exclusion, community structure, and phylogeography in wild chimpanzees.*
- 2:00 ✓ **GARZA, J.C.**--University of California at Berkeley. *Allele frequencies of microsatellites in chimpanzees and humans.*
- 2:15 ✓ **SLATKIN, M.**--University of California at Berkeley. *Microsatellite loci in human populations.*
- 2:30 **WARD, R.H.**--University of Utah; **SHIELDS, G.F.**--University of Alaska. *Reduced mitochondrial sequence diversity in linguistically diverse Circumarctic groups suggests a recent origin, compared to Amerind tribes.*
- 2:45 **SEUTIN, G.; KLEIN, N.K.; RICKLEFS, R.E.; BERMINGHAM, E.**--Smithsonian Tropical Research Institute. *Historical biogeography of the bananaquit (*Coereba flaveola*: Aves, Coerebidae) in the Caribbean region: a mtDNA assessment.*
- 3:00 **BREAK**

MONDAY AFTERNOON I

MAYBIRD

Contributed papers 7D: PLANT REPRODUCTIVE BIOLOGY;

GEOGRAPHIC VARIATION

CHAIR: D.R. CAMPBELL

- 1:30 **CAMPBELL, D.R.; WASER, N.M.; PRICE, M.V.**--University of California, Irvine. *Potential evolution of floral morphology via selection of a genetically correlated trait.*
- 1:45 **STEPHENSON, A.G.**--Penn State University. *Effects of leaf damage on pollen production and pollen performance in a wild cucurbit.*
- 2:00 **BHARATHAN, G.**--University of Arizona. *Embryo-sac development and genome size in angiosperms: a far-fetched connection?*
- 2:15 **MEAGHER, T.R.; COSTICH, D.E.**--Rutgers University. *Genome-size variation in *Silene Sect. Elisanthus*. II. Relationship to flower size in *S. latifolia*.*

- 2:30 **COSTICH, D.E.; MEAGHER, T.R.**--Rutgers University. *Genome-size variation in Silene Sect. Elisanthe. I. Relationship to sexual dimorphism across species.*
- 2:45 **MCLELLAN, T.**--University of Transkei. *Morphometric analysis of geographic variation in leaf shape of Begonia dregei.*
- 3:00 **BREAK**

MONDAY AFTERNOON II

SUPERIOR

Contributed papers 8A: MOLECULAR SYSTEMATICS
CHAIR: C.D. VON DOHLEN

- 3:30 **WRAY, C.**--Yale University. *Polyubiquitin and 18s rDNA sequence divergence and the problematic phylogenetic placement of the Foraminifera.*
- 3:45 **ROMANO, S.L.**--University of Hawaii. *Molecular conflicts with traditional phylogeny: the case of corals.*
- 4:00 **FETENER, J.W.**--Southern Illinois University. *Phylogenetic relationships among members of the crayfish genus Orconectes (Decapoda: Cambaridae) inferred by allozymes.*
- 4:15 **VON DOHLEN, C.D.; MORAN, N.A.**--University of Arizona. *A molecular phylogeny of the Homoptera from 18S nuclear rDNA.*
- 4:30 **CAMERON, S.A.**--University of Arkansas. *Mitochondrial 16S rRNA phylogeny of the genus Apis (honey bees) corroborates recent morphological analyses.*
- 4:45 **WHITFIELD, J.B.**--University of Arkansas. *Phylogenetic approaches to the evolution of polydnavirus-wasp associations.*
- 5:00 **HSIAO, T.H.**--Utah State University. *Phylogeny of chrysomelid beetles inferred from mtDNA sequence data.*
- 5:15 **e-WHITING, M.F.**--American Museum of Natural History. *Phylogenetic position of the Strepsiptera: molecular and morphological evidence.*
- 5:30 **e-AUSTIN, C.**--University of Texas at Austin. *Evolution of green blood in South Pacific scincid lizards.*

MONDAY AFTERNOON II

MAGPIE

Contributed papers 8B: SEXUAL SELECTION: COMPARATIVE APPROACHES;
MATING SYSTEMS
CHAIR: M.R. MORRIS

- 3:30 **EMERSON, S.B.**--University of Utah. *Testing pattern predictions of sexual selection in Southeast Asian frogs.*
- 3:45 **STURMBAUER, C.; LEVINTON, J.**--State University of New York at Stony Brook. *Devolution of behavioral complexity: 16S rRNA phylogeny and behavioral evolution of fiddler crabs.*
- 4:00 **MORRIS, M.R.**--University of Texas at Austin. *Testing hypotheses on the evolution of female preference in Xiphophorus.*

- 4:15 MEYER, A.; MORRISSEY, J.--State University of New York at Stony Brook. *On the tail of swordtails: molecular (mtDNA + nuclear DNA) phylogeny of Xiphophorus and the evolution of swords.*
- 4:30 CAMPBELL, R.B.--University of Northern Iowa. *Inbreeding, avoidance of inbreeding, and effective population number.*
- 4:45 ✓ BUTCHER, D.--University of Oregon. *Epistasis is not the answer to Mueller's Ratchet: mutation meltdown with variance in mutation effect.*
- 5:00 ✓ GROSBERG, R.--University of California at Davis. *Gametic incompatibility, pleiotropy, and the evolution of allorecognition specificity.*
- 5:15 ✓ HALL, D.W.--Duke University. *Gene conversion and the evolution of meiotic reproduction.*

MONDAY AFTERNOON II

WASATCH

Contributed papers 8C: LIFE HISTORY EVOLUTION: ANIMALS

CHAIR: A. J. POLLARD

- 3:30 BARROWCLOUGH, G.F.; ROCKWELL, R.F.--American Museum of Natural History. *On partitioning variance in lifetime reproductive success.*
- 3:45 FERRIERE, R.H.--University of Arizona. *Can chaotic population dynamics result from life-history evolution?*
- 4:00 MAURER, B.A.; PENNOCK, D.S.; VILLARD, M.-A.--Brigham Young University. *On the seasonal distribution of hatching asynchrony in a patchy environment.*
- 4:15 HAEMEL, G.--University of Pennsylvania. *Phylogeny and life history variation in the common tree lizard, *Urosaurus ornatus*.*
- 4:30 POLLARD, A.J.--Furman University. *Responses of invertebrate herbivores to plant stinging trichomes.*
- 4:45 BROWER, L.P.--University of Florida; ZALUCKI, M.P.--University of Queensland. *Coevolution revisited: *Asclepias humistrata* latex versus first instar monarch butterfly larvae.*
- 5:00 KRUPNICK, G.; WEIS, A.--University of California at Irvine. *The direct and indirect effects of herbivory on male and female reproductive success of *Isomen's arborea*.*
- 5:15 RICHARDSON, C.; CLAY, K.--Indiana University. *The effect of the rust fungus *Uromyces triphylli* on life history evolution in *Arisaema triphyllum*.*
- 5:30 DOBSON, F.S.; MICHENER, G.R.--Auburn University. *The influence of maternal traits on reproduction at parturition in Richardson's ground squirrels.*

MONDAY AFTERNOON II**MAYBIRD****Contributed papers 8D: ECOLOGICAL AND QUANTITATIVE GENETICS OF PLANTS
CHAIR: D. STRATTON**

- 3:30 **GALLOWAY, L.F.**--University of California at Davis. *Natural selection and evolutionary response in replicated populations of Mimulus guttatus.*
- 3:45 **MITTON, J.; LINHART, Y.**--University of Colorado. *Allozyme genotypes associated with resin pressure in ponderosa pine.*
- 4:00 **e-CABIN, R.**--University of New Mexico. *An analysis of the genetic relationship between Lesquerella fenleri and its seed bank.*
- 4:15 **STRATTON, D.**--Princeton University. *Genotype-environment interactions show extremely fine-grained variation in fitness in a population of Erigeron annuus.*
- 4:30 **MITCHELL-OLDS, T.**--University of Montana. *Molecular quantitative genetics of Arabidopsis: heterosis and hybrid breakdown.*
- 4:45 **DORN, L.**--University of Montana. *Molecular quantitative genetics of flowering time in Arabidopsis thaliana.*
- 5:00 **KEIM, P.**--Northern Arizona University. *Effect of different environments upon QTL action for a low heritable trait in soybean: GXE?*
- 5:15 **SIEMENS, D.H.; MITCHELL-OLDS, T.**--University of Montana. *Pathogen induced susceptibility to an insect herbivore: the role of gluconsinolate levels.*

MONDAY EVENING**COTTONWOOD**

SSE PRESIDENTIAL ADDRESS, 8:00 p.m. ✓
DR. JOSEPH FELSENSTEIN, University of Washington
*"Evolution within and between species:
A post-neo-darwinian synthesis?"*

MONDAY 9:00-11:00**ALPINE/RENDEZVOUS****POSTER SESSION II**

The poster sessions will be accompanied by complimentary refreshments.

48. **FAITH, D.P.**--CSIRO. *Phylogenetic diversity and the assessment of invertebrate biodiversity of Tasmanian rainforest areas.*
49. **MITCHELL, S.L.**--Western Wyoming College. *Effects of human travel on aquatic and riparian communities in Utah's national parks.*
50. **JOHNSON, J.; SVENDSEN, G.; WARNER, S.**--Ohio University. *Sources, sinks and population structure of Peromyscus maniculatus in a subdivided habitat.*
51. ✓ **LALAND, K.**--University of California, Berkeley; **ODLING-SMEE, J.**, Brunell University. *The evolutionary consequences of niche construction.*

52. **NUNEZ-FARFAN, J.; WAYNE, P.M.; BAZZAZ, F.A.--UNAM.** *Phenotypic plasticity of physiological traits in two populations of *Datura stramonium*: reaction norms to nitrogen availability.*
53. **WHALEN, M.; MACKAY, D.--Flinders University.** *Interactions between ants and an Australian native gossypium.*
54. **DICKINSON, J.A.; DYER, F.C.--Michigan State University.** *What do naive bees know about the sun's course?*
55. **GOMPPER, M.E.--University of Tennessee.** *Variation in genetic relatedness and relationships within carnivore social groups, with special emphasis on the coati (*Nasua narica*).*
56. **DIXON, K.A.--University of Chicago.** *Microgeographic variation in sexual selection and mating system in the montane lizard, *Sceloporus jarrovi*.*
57. **LYONS, E.E.; BIDIWALA, S.B.--Amherst College.** *Do intrasexual and/or intersexual interactions favor sexual dimorphism in the dioecious perennial *Silene latifolia*?*
58. Canceled
59. Canceled
60. **HALL, D.W.--Duke University.** *The evolution of selfing in marginal populations.*
61. **WILLIAMS, R.--Rocky Mountain Biological Laboratory.** *Outcrossing rates in *Delphinium nelsonii*: variation among fruits, individuals and populations.*
62. **SKINNER, S.W. --Emory University.** *Behavior systems underlying sex ratio variation in *Nasonia vitripennis*.*
63. **RUSH, S.; CONNER, J.--University of Illinois at Champaign.** *Pollinator visitation, floral morphology and fitness estimates in wild radish, *Raphanus raphanistrum*.*
64. **EDGE, K.-A.--Royal Ontario Museum.** *Effects of brood-size manipulation in New Zealand's endangered yellow-eyed penguin.*
65. **LUCKINBILL, L.S.; RIHA, V.F.--Wayne State University.** *Direct and indirect effects of selection on nutrition and life history characters in *D. melanogaster*.*
66. **LEEPER, D.; PAVEK, D; WALSH, R.; MITCHELL-OLDS, T.--University of Montana.** *Genetics and demography of a rare endemic, *Arabis fecunda*.*
67. **REMOLD, S.--Cornell University.** *Virus infection, phenotype and fitness in yellow foxtail.*
68. **PAVEK, D.S.--University of Montana.** *Genetic variance for fitness and growth characters of natural populations.*
69. **SASAKI, A.; ELLNER, S.--North Carolina State University.** *Genetic and phenotypic variance maintained by fluctuating selection with overlapping generations.*
70. **BACKUS, V.L.; BRYANT, E.H.; HUGHES, C.R.--University of Houston.** *Effects of migration on fitness and genetic variation in bottlenecked populations of the housefly, *Musca domestica* (L.).*

71. **HARIT, L.**--Utah State University. *Predator-prey extinction model where the prey population suffers from inbreeding depression.*
72. **MONTALVO, A.M.**--USDA Riverside Forest Fire Laboratory. *Clonal structure and genetic variation in canyon live oak, *Quercus chrysolepis*.*
73. **SPINKA, T.L.; GODDARD, K.**--Ursinus College. *Analysis of winter flounder population subdivision by differences in random amplified polymorphic DNA.*
74. **RICHARDS, M.; WOODING, S.; PARKER, L.; SEGER, J.**--University of Utah. *Seasonal and regional size variation of some North American sweat bee populations.*
75. **WALKER, J.A.**--State University of New York at Stony Brook. *Geometric morphometrics and functional integration of threespine stickleback body form.*
76. **YAMPOLSKY, L.**--Northern Illinois University. *Genetic variation and differentiation within and among species of endemic gammarids of Lake Baikal.*
77. ✓ Cancelled.
78. ✓ **JUNGCK, J.R.**--Beloit College. *Topological constraints of genetic codes: metrics for mutation.*
79. **KORNEGAY, J.R.**--University of California at Berkeley. *Pathways of lysozyme evolution in birds inferred from the sequences of cytochrome b.*
80. ✓ **PERNA, N.T.; KOCHER, T.D.**--University of New Hampshire. *Untested assumptions about the evolution of mtDNA.*
81. ✓ **SCHULTE, P.M.**--Stanford University; **SEGAL, J.A.**--University of Chicago; **POWERS, D.A.**--Stanford University; **CRAWFORD, D.L.**--University of Chicago. *Variation in gene expression of LDH-B in *Fundulus heteroclitus*: data from the 5' regulatory region.*
82. ✓ **WYNGAARD, G.**--James Madison University. *Genome size and chromatin diminution in a freshwater copepod.*
83. **BIRKY, C.W.**--Ohio State University. *Evolutionary consequences of the loss of photosynthesis in algae, deduced from gene sequences of colorless and green chlorophytes.*
84. **FORSTNER, M.**--Texas A&M University. *Evidence from mitochondrial DNA sequence analysis for the origin of the suborder Serpentes.*
85. **FUNK, D.J.**--State University of New York at Stony Brook. *Molecular phylogenetics of the chrysomelid genus *Ophraella* (LeSage) using mtDNA.*
86. **HICKEY, D.; SPERLING, F.; FOSTER, P.**--University of Ottawa. *DNA sequence divergence between mosquito sibling species and mosquito genera.*
87. **SPICER, G.; SPICER, C.**--Institute of Molecular Medical Sciences. *Phylogeny of the *Drosophila virilis* species group based on mitochondrial DNA 617-1850 sequences.*
88. **JACOBS, S.C.**--Washington University at St. Louis. *Molecular phylogeny of the tamarins (genus *Saguinus*).*

89. LAHOOD, E.; KEIM, P.--Northern Arizona University. *Evolution of single-needed fascicles in Pinus subsection Cembroides.*
90. MCSHEA, D.W.--University of Michigan. *Functional vs. phylogenetic control in the evolution of the mammalian vertebral column.*
91. RICHARDSON, C.--University of Wisconsin at Madison. *Metabolism and thermoregulation in crosses between wild and laboratory house mice.*
92. ASMUSSEN, M.; BASTEN, C.--University of Georgia. *Estimating cytonuclear disequilibria in natural populations: minimum sample sizes needed.*
93. TURNER, P.E.--Michigan State University. *Frequency dependent interactions among recombinant genotypes.*

TUESDAY MORNING

BALLROOM

SSB SYMPOSIUM: PHYLOGENY WITH CONFIDENCE:

METHODS FOR ASSESSING THE RELIABILITY OF PHYLOGENETIC INFERENCES

- ORGANIZER: M.J. SANDERSON.** University of Nevada at Reno.
- 8:30 ✓ **N. GOLDMAN.** National Institute for Medical Research, London;
YANG, Z. Cambridge University. *Comparison of models for DNA substitution: accurate estimates of evolutionary parameters from incorrect trees and uncertain estimates of trees from realistic models.*
- 9:00 ✓ **D. FAITH.** CSIRO, Australia. *Topology-dependent tests for hierarchical structure.*
- 9:30 ✓ **D. SWOFFORD.** Smithsonian Institution. *Exploration of tree space and its relationship to confidence.*
- 10:00 **BREAK**
- 10:30 ✓ **D. HILLIS.** University of Texas at Austin. *Don't trip over your bootstrap.*
- 11:00 ✓ **M.J. SANDERSON.** *Modified bootstrap resampling for molecular data: redressing the 'casual assumption' of independence and identical distribution.*
- 11:30 ✓ **J. FELSENSTEIN.** University of Washington at Seattle. *Criticisms of the bootstrap: a response.*

TUESDAY MORNING I

SUPERIOR

Contributed papers 9A: POPULATION AND COMMUNITY ECOLOGY

CHAIR: R. ETTER

- 8:00 **ETTER, R.; CASWELL, H.**--University of Massachusetts. *A comparison of spatial and nonspatial models of ecological interactions.*
- 8:15 **TAPER, M.L.**--Montana State University. *How do species really divide resources? Predicting the variance in species energy use.*
- 8:30 **ELLNER, S.**--North Carolina State University. *Chaos in a 'noisy' world: new methods and evidence from nonlinear time series analysis.*
- 8:45 **MUELLER, L.D.**--University of California at Irvine. *Ecological determinants of stability in model populations.*

- 9:00 **LALAND, K.**--University of California at Berkeley; **ODLING-SMEE, J.**--Brunell University. *The evolutionary consequences of niche construction.*
- 9:15 **KRUKONIS, G.**--University of Arizona. *Bacteriophage from the Sonoran Desert: generalist and specialist foragers in a microscopic world.*
- 9:30 **NOVOPLANSKY, A.**--University of Michigan. *Decision making with limited environmental information: competitive strategies of potentially overlapping root systems.*
- 9:45 **ROY, B.**--University of California at Davis. *Some ecological and evolutionary consequences of floral mimicry by a fungus.*

TUESDAY MORNING I

MAGPIE

Contributed papers 9B: ANIMAL MATING SYSTEMS

CHAIR: S. COHEN

- 8:00 **COHEN, S.**--Stanford University. *Mating system variation between local populations in the ascidian genus *Corella*.*
- 8:15 **PARMAN, A.**--University of Illinois at Chicago. *Mating does not reduce sib-competition in *Paramecium*.*
- 8:30 **DENG, H.-W.**--University of Oregon. *Change of environmental variance upon inbreeding in one cyclical parthenogenetic population.*
- 8:45 **JARNE, P.; DOOMS, C.**--University of Montpellier II. *Comparative fitness of grouped and isolated aphyllid and euphyllid *Bulinus truncatus* (Gastropoda).*
- 9:00 **DILLON, R.T.**--College of Charleston; **WETHINGTON, A.R.**--Indiana University. *Albinism, isozymes, and the search for sperm "sharing" in the hermaphroditic freshwater snail, *Physa*.*
- 9:15 **WETHINGTON, A.R.**--Indiana University. *Gender choice and gender conflict in a non-reciprocally mating simultaneous Hermaphrodite, the freshwater snail, *Physa*.*
- 9:30 **POTTS, W.K.; WAKELAND, E.K.**--University of Florida. *The evolution of MHC genetic diversity: a tale of incest, pestilence and sexual performance.*
- 9:45 **JANZEN, F.J.**--University of California at Davis. *Evolution of temperature-dependent sex determination in a changing environment: an empirical approach.*
- 10:00 **BREAK**

TUESDAY MORNING I**WASATCH****Contributed papers 9C: LIFE HISTORY EVOLUTION IN ANIMALS****CHAIR: M.C. BELK**

- 8:00 **HEIDEMAN, P.D.; BRONSON, F.H.**--University of Texas at Austin. *Precision of the photoperiodic seasonal clock in hamsters: how well could mammals tell the seasons in the tropics?*
- 8:15 **SUTER, S.M.**--Northern Arizona University. *Selection trade-offs among life history stages of arroyo willow (*Salix lasiolepis*).*
- 8:30 **PURVIS, A.**--University of Oxford. *Mammal life history: a comparative test of Charnov's model.*
- 8:45 **WIEGMANN, D.D.**--University of Wisconsin at Madison. *Age of first reproduction and fitness of male smallmouth bass (*Micropterus dolomieu*).*
- 9:00 **BELK, M.C.**--Brigham Young University. *Variation in growth and age at maturity in bluegill sunfish, *Lepomis macrochirus*: genetic or environmental effects?*
- 9:15 ✓ **ORIVE, M.E.**--University of California at Berkeley. *Senescence in clonal organisms.*
- 9:30 **LUCKINBILL, L.S.; RIHA, V.F.**--Wayne State University. *Selection, nutrition and aging in *Drosophila melanogaster*.*
- 9:45 **RIHA, V.F.; LUCKINBILL, L.S.**--Wayne State University. *The effects of larval density on nutrition and aging in *Drosophila melanogaster*.*
- 10:00 **BREAK**

TUESDAY MORNING I**MAYBIRD****Contributed papers 9D: ECOLOGICAL AND QUANTITATIVE GENETICS OF PLANTS****CHAIR: S.M. SCHEINER**

- 8:00 **YOUNG, H.**--Barnard College. *Measurement of heritability and $G + E$ for floral growth traits in dioecious *Silene latifolia* under field conditions.*
- 8:15 **WASER, N.M.**--University of California, Riverside. *Partitioning quantitative variation in seed set and seed mass: diallel crosses with *Ipomopsis aggregata*.*
- 8:30 **BOOSE, D.L.**--University of California at Davis. *Genetic and phenotypic variation in nectar production in a natural population of *Epilobium canum* (*Onagraceae*).*
- 8:45 **PIGLIUCCI, M.; SCHLICHTING, C.D.**--University of Connecticut. *Ontogenetic reaction norms for a light gradient in *Lobelia siphilitica* (*Lobeliaceae*).*
- 9:00 **SCHEINER, S.M.; WEIS, A.; YAMPOLSKY, L.**--Northern Illinois University. *Methods for estimating genetic parameters of complex reaction norms.*

- 9:15 **SULTAN, S.E.**--University of California at Davis. *Effects of parental plant environment on offspring traits in Polygonum persicaria.*
- 9:30 **WINN, A.**--Florida State University. *Genetic variation and constraints on plastic response to temperature in an annual plant.*
- 9:45 **DIGGLE, P.**--University of Colorado. *Ontogenetic contingency and the evolution of phenotypic plasticity in andromonoecious Solanum hirtum.*
- 10:00 **BREAK**

TUESDAY MORNING II

SUPERIOR

Contributed papers 10A: POPULATION AND COMMUNITY ECOLOGY
CHAIR: G.E. SVENDSEN

- 10:30 **STRAUSS, S.Y.; MORROW, P.A.; SCHWARTZ, M.W.**--University of Illinois at Urbana. *Consistent differences in insect species assemblages on individual Eucalyptus stellulata trees over three years.*
- 10:45 **MACKAY, D.; WHALEN, M.**--Flinders University. *Ant associations with an Australian dioecious Euphorb.*
- 11:00 **SVENDSEN, G.E.; WHITE, M.**--University of Ohio. *Dispersal and neighborhood size in chipmunks (Tamias striatus).*
- 11:15 **HOCHACHKA, W.M.; BOONSTRA, R.; PAVONE, L.**--University of Toronto at Scarborough. *Heterozygosity and aggression in meadow voles: sexual and population differences.*
- 11:30 **LINDER, C.R.**--Brown University. *Effects of transgenic oil-modification genes on seed bank dynamics and seedling vigor in canola and wild Brassica rapa x B. napus canola hybrids: implications for population persistence.*
- 11:45 **TOBIN, S.C.**--Northern Arizona University. *Phenotypic plasticity in a generalist spider mite: variation in sex ratios and other performance components.*

TUESDAY MORNING II

MAGPIE

Contributed papers 10B: MAINTENANCE OF SEXUAL REPRODUCTION;
EVOLUTION OF LIFE CYCLES
CHAIR: A.J. CULLUM

- 10:30 **MCCARTNEY, M.A.**--State University of New York at Stony Brook. *Sex allocation and fertilization success in a bryozoan: male fitness gain in a sessile, hermaphroditic marine invertebrate.*
- 10:45 **HANLEY, K.**--University of California, San Diego-La Jolla. *Does differential parasitism favor sexuals? Patterns, processes and consequences of mite infestation in sexual and asexual gecko congeners.*
- 11:00 **CULLUM, A.J.**--University of California at Irvine. *Physiological consequences of asexuality in Cnemidophorus: population variance and "hybrid vigor."*

- 11:15 **DYBDAHL, M.**--Indiana University. *The diversity of clones in natural populations of the New Zealand snail *Potomopyrgus antipodarum*.*
- 11:30 **NORMARK, B.B.**--Cornell University. *Molecular phylogeny and the evolution of parthenogenesis in the *Naupactus tessellatus* complex (Curculionidae).*
- 11:45 **RICHERD, S.**--University of Lile, France. *Evolution of haplo-diploid cycles in algae.*

TUESDAY MORNING II

WASATCH

Contributed papers 10C: LIFE HISTORY EVOLUTION IN ANIMALS

CHAIR: G. GILCHRIST

- 10:30 **DOHM, M.R.**--University of Wisconsin at Madison. *Exercise physiology in crosses between wild and laboratory house mice.*
- 10:45 **KINGSOLVER, J.; HUEY, R.**--University of Washington at Seattle. *Thermal sensitivity and evolutionary responses to climate change.*
- 11:00 **GILCHRIST, G.W.**--University of Washington at Seattle. *Environmental variation and thermal specialization: models of reaction norm evolution.*
- 11:15 **MCMANUS, M.**--Florida State University. *Phenotypic plasticity in sailfin mollies: discordance between life history traits and resource allocation.*
- 11:30 **TRAVIS, J.**--Florida State University; **TREXLER, J.C.**--Florida International University. *Comparative phenotypic plasticity in the sailfin molly (*Poecilia latipinna*) between populations from distinct geographic regions.*
- 11:45 **TREXLER, J.**--Florida International University; **TRAVIS, J.**--Florida State University. *Plasticity of sailfin molly life histories: regional comparisons.*

TUESDAY MORNING II

MAYBIRD

Contributed papers 10D: PLANTS: GENETIC POPULATION STRUCTURE

CHAIR: J.A. MATOS

- 10:30 **EDWARDS, A.L.**--University of Georgia. *Population genetics and seed dispersal characteristics of the rare *Asclepias texana* and its widespread congener, *A. perennis*.*
- 10:45 **HEYWOOD, J.S.**--Southwest Missouri State University. *Isolation by distance within a tallgrass prairie population of *Ruellia humilis* (Acanthaceae).*
- 11:00 **JORDAN, W.C.**--University of Southwestern Louisiana. *The use of denaturing gradient gel electrophoresis to examine chloroplast DNA variation in duckweed.*
- 11:15 **MATOS, J.A.; SCHAAL, B.A.**--Utah State University. *Chloroplast evolution and hybridization in *Pinus hartwegii* Lindl. and *P. montezumae* Lamb.*

- 11:30 **PODOLSKY, R.**--University of California at Riverside. *Population structure of morphological traits in Clarkia dudleyana.*
- 11:45 **RUCKELSHAUS, M.**--University of Washington at Seattle. *Estimates of genetic neighborhood parameters for a marine angiosperm, Zostera marina L.*

TUESDAY AFTERNOON

BALLROOM

ASN YOUNG INVESTIGATORS SYMPOSIUM

MODERATOR: R. HUEY

- 1:30 **J. BERGELSON.** Washington University at St. Louis. *Spatial heterogeneity and the invasiveness of annual weeds.*
- 2:15 **L. DUGATKIN.** University of Kentucky. *Copying the mate choice of others: mechanisms and evolutionary consequences.*
- 3:00 **BREAK**
- 3:45 **L. ROWE.** University of Kentucky. *Reproductive determinism, reproductive costs and senescence in a water strider.*
- 4:30 **G. HILL.** Auburn University. *The evolution of colorful plumage in the house finch.*

TUESDAY AFTERNOON I

SUPERIOR

Contributed papers 11A: POPULATION ECOLOGY; BEHAVIOR AND EVOLUTION

CHAIR: J.D. EVANS

- 1:30 **BERNARDO, J.**--Duke University. *A framework for the evolutionary analysis of interdemic size variation and its application to an analysis of dynamic size clines in a salamander.*
- 1:45 **GOODNIGHT, K.F.**--Rice University. *Kin selection under viscous population structures.*
- 2:00 ✓ **EVANS, J.D.**--University of Utah. *Relatedness within colonies of the polygynous, subalpine ant, Myrmica "near tahoensis," as determined by microsatellite DNA polymorphism analysis.*
- 2:15 **RICHARDS, M.**--University of Utah. *Unexpected patterns of relatedness in a primitively eusocial sweat bee.*
- 2:30 **KUKUK, P.F.**--University of Montana. *Cooperation among nonrelatives in a halictine bee.*
- 2:45 **SULLIVAN, K.A.**--Utah State University; **WEATHERS, W.W.**--University of California at Davis. *Does individual variation in daily energy expenditure predict reproductive success in yellow-eyed juncos.*
- 3:00 **BREAK**

TUESDAY AFTERNOON I**MAGPIE****Contributed papers 11B: MOLECULAR SYSTEMATICS****CHAIR: J. ARCHIE**

- 1:30 **SIMON, C.**--University of Connecticut; **NIGRO, L.**--University of Padua. *Large among taxon differences in proportion of sites free to vary in animal mitochondrial small subunit ribosomal RNA genes and implications for tree building.*
- 1:45 **SULLIVAN, J.; SIMON, C.**--University of Connecticut. *Nucleotide saturation at low percent sequence divergence in the mitochondrial small ribosomal subunit gene.*
- 2:00 **SHAFFER, H.B.**--University of California at Davis. *210 million years of mitochondrial DNA evolution in turtles and its bearing on vertebrate molecular clocks.*
- 2:15 ✓ **SHULTZ, J.W.**--University of Cincinnati. *Rates of nucleotide evolution in primates: tests of the punctuational model and the hominoid-slowdown hypothesis.*
- 2:30 ✓ **GUTTMAN, D.**--State University of New York at Stony Brook. *Periodic selection and recombination in *Escherichia coli*.*
- 2:45 **ARCHIE, J.**--California State University. *Homoplasy levels and tests of monophyly in the genus *Sceloporus* using cytochrome-B nucleotide sequences.*
- 3:00 **BREAK**

TUESDAY AFTERNOON I**WASATCH****Contributed papers 11C: ECOLOGICAL AND QUANTITATIVE GENETICS****CHAIR: W. E. BRADSHAW**

- 1:30 **NUNNEY, L.**--University of California at Riverside. *Correlated responses to selection for fast larval development rate in *Drosophila melanogaster*.*
- 1:45 **HUGHES, K.A.**--Chicago Zoological Park. *Evolutionary genetics of *Drosophila* life histories: the genetic variance-covariance structure of male mating success, longevity, and male fertility.*
- 2:00 **BRADSHAW, W.E.**--University of Oregon. *Correlated responses of size and fitness (r_c) to direct selection on development time in the pitcher-plant mosquito.*
- 2:15 **KUCERA, S.D.**--University of New Mexico. *Direct and correlated responses to artificial selection of diapause induction and development time in *Plodia interpunctella*: experimental tests of new theory.*
- 2:30 **NOVAK, J.**--Savannah River Ecology Laboratory. *Quantitative assessment of historical factors on covariation among life history traits.*

- 2:45 WEEKS, S.C.--Savannah River Ecology Lab. *Quantitative genetics and phenotypic plasticity of life-history traits in mosquitofish (Gambusia holbrooki).*
- 3:00 BREAK

TUESDAY AFTERNOON I

MAYBIRD

- Contributed papers 11D: EVOLUTION OF GENES AND PROTEINS
CHAIR: D. BEGUN
- 1:30 ✓ AQUADRO, C.F.; KINDAHL, E.; BEGUN, D.J.--Cornell University. *Evolutionary implications of a positive correlation between DNA variation and rate of recombination in Drosophila.*
- 1:45 ✓ EYRE-WALKER, A.--Rutgers University. *Recombination frequency and DNA composition are related in mammalian genomes.*
- 2:00 BEGUN, D.; AQUADRO, C.--Cornell University. *Unusually large amounts of DNA polymorphism in a population of Drosophila melanogaster from Zimbabwe.*
- 2:15 JENKINS, T.M.--University of Georgia. *Evolution of the isolated, peripheral Bogotá population of Drosophila pseudoobscura inferred from sequenced PCR products from the mtDNA A-T region.*
- 2:30 PALOPOLI, M.--University of Chicago. *Hitchhiking with meiotic drive: molecular evolution of the Segregation Distorter complex.*
- 2:45 WAYNE, M.L.--University of Chicago. *Hitchhiking near the centromere of chromosome 2 in Drosophila: distinguishing between possible mechanisms.*
- 3:00 BREAK

TUESDAY AFTERNOON II

SUPERIOR

- Contributed papers 12A: BEHAVIOR AND EVOLUTION
CHAIR: W. HAMES
- 3:30 TANEYHILL, D.E.--State University of New York at Stony Brook. *Evolution of complex foraging behavior in bumble bees: rules and mechanisms.*
- 3:45 COHEN, D.--Princeton University. *Modeling ESS arrival time distribution at sites with heterogeneous quality.*
- 4:00 SIH, A.--University of Kentucky. *Evolution of ineffective antipredator responses of streamside salamander larvae to predatory sunfish.*
- 4:15 HAMES, W.; HARRIS, R.--James Madison University. *The effect of population density on joint nesting in the four-toed salamander.*
- 4:30 CRAIG, C.L.--Yale University. *Orb-weaving spiders have evolved foraging behaviors in response to insect cognitive processes.*
- 4:45 POPE, T.R.--Duke University. *The ontogeny of social group formation by solitary red howling monkeys during colonization events.*
- 5:00 LONGLAND, W.S.--University of Nevada. *Behavioral correlates of substrate color matching in desert rodents.*

- 5:15 **NAYLOR, G.J.P.; MARCUS, L.**--*Sharks' teeth in the fossil record: a multivariate model for the identification of species.*

TUESDAY AFTERNOON II

MAGPIE

Contributed papers 12B: PHYLOGENY AND CHARACTER EVOLUTION

CHAIR: M. MCKITRICK

- 3:30 **DE QUEIROZ, A.**--University of Arizona at Tucson. *A test for bias in the direction of character change.*
- 3:45 **CHERNOFF, B.; PAULSEN, S.**--Duke University. *Morphological stasis, developmental constraints and adaptation.*
- 4:00 **MCKITRICK, M.C.**--University of Michigan. *Homology and the ontological relationship of parts.*
- 4:15 **GATESY, J.**--American Museum of Natural History. *Simpsonian trends: cladistic redefinition for serial homologues.*
- 4:30 **MCSHEA, D.W.**--University of Michigan. *What makes evolutionary trends go? (A new test)?*
- 4:45 **WESTNEAT, M.**--Field Museum of Natural History at Chicago. *Testing the phylogenetic congruence of feeding mechanics and diet in fishes using comparative methods.*
- 5:00 **POPADIC, A.**--University of Georgia. *Inversion phylogeny of *Drosophila pseudoobscura*: evidence for ancestral status of the standard gene arrangement.*
- 5:15 **BERMINGHAM, E.**--Smithsonian Tropical Research Institute. *Coevolution of figs and their wasps.*
- 5:30 **BROWN, J.; ABRAHAMSON, W.G.**--Bucknell University. *The evolution of trophic interactions and host-association in the goldenrod gallmakers (*Eurosta* spp.).*

TUESDAY AFTERNOON II

WASATCH

Contributed papers 12C: ECOLOGICAL AND QUANTITATIVE GENETICS

CHAIR: C.J.WILLIAMS

- 3:30 **DE JONG, G.**--University of Utrecht, The Netherlands. *Selection on reaction norms: comparing approaches.*
- 3:45 **GAVRILETS, S.**--University of California at Davis. *A quantitative genetic model for developmental noise.*
- 4:00 **YAMPOLSKY, L.**--Northern Illinois University. *Developmental noise in *Daphnia* increases with allozyme heterozygosity.*
- 4:15 **GESSLER, D.**--University of California at Santa Cruz. *Mutation accumulation in finite populations: Muller's ratchet and variable selection coefficients.*
- 4:30 **HOULE, D.; KONDRASHOV, A.**--University of Oregon. *Are more deleterious mutants expressed in stressful than optimal environments?*

- 4:45 MILLER, P.S.--Arizona State University. *Analysis of enhancement of inbreeding depression by environmental stress in Drosophila, and its application to endangered species management.*
- 5:00 SCHLUTER, D.--University of British Columbia. *Exploring fitness surfaces, and the form of natural selection.*
- 5:15 SMITH, C.C.--Kansas State University. *The distribution of parental resources among offspring as a tool for estimating selective intensity and relative fitness.*
- 5:30 WILLIAMS, C.J.; ARNOLD, J; WHITE, P.M.; YARDLEY, D.G.; ANDERSON, W.--University of Idaho. *Models for multi-generational experiments on selection components.*

TUESDAY AFTERNOON II

MAYBIRD

Contributed papers 12D: EVOLUTION OF GENES AND PROTEINS

CHAIR: S.W. Schaeffer

- 3:30 HILTON, H.--Rutgers University. *Hitchhiking genes and speciation in the Drosophila melanogaster complex.*
- 3:45 ✓ SCHAEFFER, S.W.--Pennsylvania State University. *Mutation, recombination, and multilocus associations in the alcohol dehydrogenase region of Drosophila pseudoobscura.*
- 4:00 ✓ NUZHDIN, S.--North Carolina State University; NUZHDIN, P.--Institute of Molecular Genetics, Moscow, Russia. *Doc and copia instability in an isogenic Drosophila melanogaster stock: the evolution of self-regulated transposition.*
- 4:45 ✓ DAWLEY, R.M.--Ursinus College. *Evolution of DNA content in the Drosophila obscura group.*
- 5:00 ✓ KAMBYSELLIS, M.P.; PARISI, M.; HO, K.-F.--New York University; CRADDOCK, E.M.--State University of New York at Purchase. *Hot spots for insertions/deletions in Hawaiian Drosophila vitellogenin genes: timing of nucleotide deletion events.*
- 5:15 ✓ CREASE, T.--University of Guelph. *Sequence variation among repetitive elements in the ribosomal DNA intergenic spacers of Daphnia pulex.*

TUESDAY EVENING

BALLROOM

SSB PRESIDENTIAL ADDRESS

DR. MICHAEL NOVACEK, American Museum of Natural History
"Dinosaurs and Flaming Cliffs"

8:00 p.m., following the Banquet

WEDNESDAY MORNING**BALLROOM****SSE SYMPOSIUM: MOLECULAR ASPECTS OF VERTEBRATE EVOLUTION****ORGANIZERS:** R.L. HONEYCUTT. Texas A&M University;
WEN-HSIUNG LI. University of Texas at Houston.

- 8:00 **D. MINDELL.** University of Cincinnati. *Molecular systematics of early diverging avian orders.*
- 8:30 **M. RUVOLO.** Harvard University. *Why gene trees aren't always species trees: evidence from the primate molecular evolutionary record.*
- 9:00 **R.L. HONEYCUTT.** *Molecular systematics of eutherian mammals: an assessment of molecular characters and phylogenetic hypotheses.*
- 9:30 **D.M. HILLIS.** University of Texas at Austin. *The failure of molecular clocks in vertebrate systematics.*
- 10:00 **BREAK**
- 10:30 **S.R. PALUMBI.** University of Hawaii. *Nucleotide generation time and rate variation in molecular evolution.*
- 11:00 **W.-H. LI.** *Male-driven evolution of DNA sequences.*
- 11:30 **General Discussion and Questions**

WEDNESDAY MORNING**SUPERIOR****SSE SYMPOSIUM: THE EVOLUTION OF HAPLOID-DIPLOID LIFE CYCLES
(WITH SUPPORT FROM THE AMERICAN MATHEMATICAL SOCIETY)****ORGANIZER:** MARK KIRKPATRICK, University of Texas at Austin

- 8:15 *Introduction to symposium:* M. KIRKPATRICK.
- 8:30 **G. BELL.** McGill University. *The comparative biology of the alteration of generations.*
- 9:00 **A. KONDRASHOV.** Cornell University. *Gradual origin of amphimictic cycle by natural selection.*
- 9:30 **C. JENKINS.** University of Texas. *Ecological selection and deleterious mutation in the evolution of life cycles.*
- 10:00 **BREAK**
- 10:30 **R. MICHOD.** University of Arizona. *Genetic error and the evolution of sexual life cycles.*
- 11:00 **S. OTTO.** University of California at Berkeley. *Genetic prerequisites and consequences of life cycle evolution.*
- 11:30 **V. PERROT.** University of Basle. *Experimental tests of theories for the evolution of haploid-diploid life cycles.*

WEDNESDAY MORNING I**MAGPIE**

Contributed papers 13B: PHYLOGENY AND CHARACTER EVOLUTION

CHAIR: H. KLOMPEN

- 8:00 **KLOMPEN, H.**--Georgia Southern University. *Systematics and evolution of ixodid ticks: the Australian connection.*
- 8:15 **MALLAMPALLI, V.; SCOTT, T.**--University of Maryland at College Park. *Phylogeny of alphavirus vectors in the New World: are they monophyletic?*
- 8:30 **LIEBHERR, J.K.**--Cornell University. *Historical biogeography to conservation priority: Mexican and Central American Carabidae.*
- 8:45 **CARLSON, S.**--University of California, Davis. *Brachiopods-Deuterostomes or Protostomes?*
- 9:00 **HALANYCH, K.M.**--University of Texas at Austin. *Higher level relationships of deuterostome and lophophorate metazoans inferred from molecular data.*
- 9:30 **HANNER, R.**--University of Oregon. *Diversification of the Brachiopoda.*
- 9:45 **CANNATELLA, D.; NISHIKAWA, K.; O'REILLY, J.**--University of Texas at Austin. *Evolution of form and function in the tongue of frogs.*
- 10:00 **BREAK**

WEDNESDAY MORNING I**WASATCH**

Contributed papers 13C: ECOLOGICAL AND QUANTITATIVE GENETICS

CHAIR: P. A. CARTER

- 8:00 **SPITZE, K.**--University of Miami. *Population differentiation in Daphnia.*
- 8:15 **MEFFERT, L.M.**--University of Houston. *Bottleneck effects on genetic variance for courtship repertoire.*
- 8:30 **RUIZ, A.**--University of Barcelona. *Biometrical effects of chromosome inversions in the cactophilic fly Drosophila buzzatii.*
- 8:45 **MESSINA, F.J.**--Utah State University. *Heritability and 'evolability' of fitness components in two populations of a seed beetle.*
- 9:00 **CARTER, P.A.**--University of Wisconsin at Madison. *Evolutionary genetics of Adh in tiger salamanders: population and biochemical aspects of metamorphosis.*
- 9:15 **GOMULKIEWICZ, R.; HOLT, R.D.**--University of Kansas. *Evolution in declining populations: when does selection prevent extinction?*
- 9:30 **JONES, D.A.**--University of Florida. *The continuing saga of the scarlet tiger moth.*

- 9:45 **SANDOVAL, C.P.**--University of California at Santa Barbara. *Spatial patterns of color morph frequency in a walking stick agree with predictions of isolation by distance and multiple niche polymorphism models.*
- 10:00 BREAK

WEDNESDAY MORNING I

MAYBIRD

Contributed papers 13D: EVOLUTION OF GENES AND PROTEINS

CHAIR: P.K. TUCKER

- 8:00 **NACHMAN, M.; BOYER, S.; AQUADRO, C.**--Cornell University. *Contrasting levels of amino acid polymorphism and divergence at the mitochondrial ND3 gene in mice.*
- 8:15 **UYENOYAMA, M.K.**--Duke University. *Origin of sporophytic self-incompatibility.*
- 8:30 **TUCKER, P.K.; LUNDRIGAN, B.L.**--University of Michigan. *Two modes of evolution at the male sex determining locus in mice.*
- 8:45 **SPENCER, H.G.**--University of Otago; **MARKS, R.W.**--Villanova University. *The power of the Ewens-Walterson test is low.*
- 9:00 **KATZ, L.A.**--Cornell University. *Gryllus in the mist: cloning and characterization of the phosphoglucose isomerase locus in field crickets.*
- 9:15 **RAND, D.M.**--Brown University. *Is mtDNA a neutral genetic marker? Tests with population cages and nucleotide sequences.*
- 10:00 BREAK

WEDNESDAY MORNING II

MAGPIE

Contributed papers 14B: PHYLOGENY AND CHARACTER EVOLUTION

CHAIR: D. SWIDERSKI

- 10:30 **NAYLOR, G.J.P.**--University of Michigan; **MARTIN, A.**--Smithsonian Tropical Research Unit. *Molecular evolution of requiem sharks (Carcharhinidae) and implications for molecular rate estimates.*
- 10:45 **CRUMLY, C.R.**--San Diego National History Museum. *The origin of zygodactyly in chamaeleons.*
- 11:00 **SWIDERSKI, D.**--University of Michigan. *Phylogenetic distributions of scapular size and shape in squirrels.*
- 11:15 **PRICE, T.**--University of California at San Diego. *Evolution of sexual dimorphism in color patterns of birds.*
- 11:30 **MARTINS, E.P.**--University of Oregon. *Estimating rates of phenotypic evolution from comparative data.*
- 11:45 **EDWARDS, S.V.**--University of Florida; **KOT, M.**--University of Washington at Seattle. *Comparative methods at the species level: phylogenetic autocorrelation analysis of geographic variation in morphology in grey-crowned babbler.*

- 12:00 **GRIFFITHS, C.S.**--American Museum of Natural History. *Variation in syringeal morphology and the phylogeny of genera in the family Falconidae (Falcons and Caracaras).*

WEDNESDAY MORNING II

WASATCH

Contributed papers 14C: ECOLOGICAL AND QUANTITATIVE GENETICS

CHAIR: S. MEAGHER

- 10:30 **NAGY, E.S.**--University of California at Davis. *Do local adaptation and immigrant frequency influence effective gene flow?*
- 10:45 **TURELLI, M.**--University of California at Davis. *Evolution of incompatibility-inducing microbes and their hosts.*
- 11:00 **MAURICIO, R.**--Duke University. *The evolution of resistance to herbivores and pathogens in the annual plant, Arabidopsis thaliana: costs of resistance.*
- 11:15 **DAVELOS, A.L.**--University of Kansas. *Local adaptation of fungal pathogen populations to their host plants.*
- 11:30 **MEAGHER, S.**--University of Michigan. *A negative association between genetic variability and levels of parasitism among Michigan deer mouse populations.*
- 11:45 **GROSHOLZ, E.**--University of California at Davis. *An introduced crustacean parasite in the Chesapeake Bay: heritable susceptibility and the potential for spread in populations of the xanthid crab, Rhithropanopeus harrisii.*
- 12:00 **IWAO, K.; RAUSHER, M.D.**--Duke University. *Quantitative approach to diffuse coevolution: measuring selection on plant resistance imposed by multiple herbivores.*

WEDNESDAY MORNING II

MAYBIRD

Contributed papers 14D: EVOLUTION OF GENES AND PROTEINS

CHAIR: R.E. BROUGHTON

- 10:30 **CRILL, W.D.**--University of Texas. *The effects of long-term selection (2000 generations) on the competitive fitness of the bacteriophage T7.*
- 10:45 **BROUGHTON, R.E.; DOWLING, T.E.**--Arizona State University. *Evolutionary dynamics of duplicated sequences in minnow mitochondrial DNA.*
- 11:00 **GAUT, B.S.**--North Carolina State University. *Molecular evolution of the Adh1 locus in pearl millet and maize.*
- 11:15 **MCCAFFERTY, S.S.**--Smithsonian Tropical Research Institute. *The origin of heteroplasmy in Mytilus edulis.*

Reminder to Contributed Paper Session Chairs. Please arrive early to your session and introduce yourself to the projectionist. Go over your equipment with the

projectionist. Your room should have a slide projector; an overhead projector; a podium light; and a pointer. If you do not have a watch for timing the speakers the projectionist will loan you one.

Please announce at the beginning of your session that all speakers should already have loaded their slides or should do so as soon as possible. The projectionist will have some carousels available.

You then need to **ANNOUNCE** the rules, which are as follows: 1. Speakers have a **total** of 15 minutes, **including** questions. 2. The Chair will warn speakers at 12 minutes by a hand signal, and will further warn them by **STANDING UP** at 14 minutes. The speaker will be politely but firmly cut off at 15 minutes. No questions should be taken if the 15 minutes are gone.

You may enforce these rules by any device you think appropriate.

Do not get ahead of schedule if there is a cancellation; wait until the scheduled time to begin the next talk.

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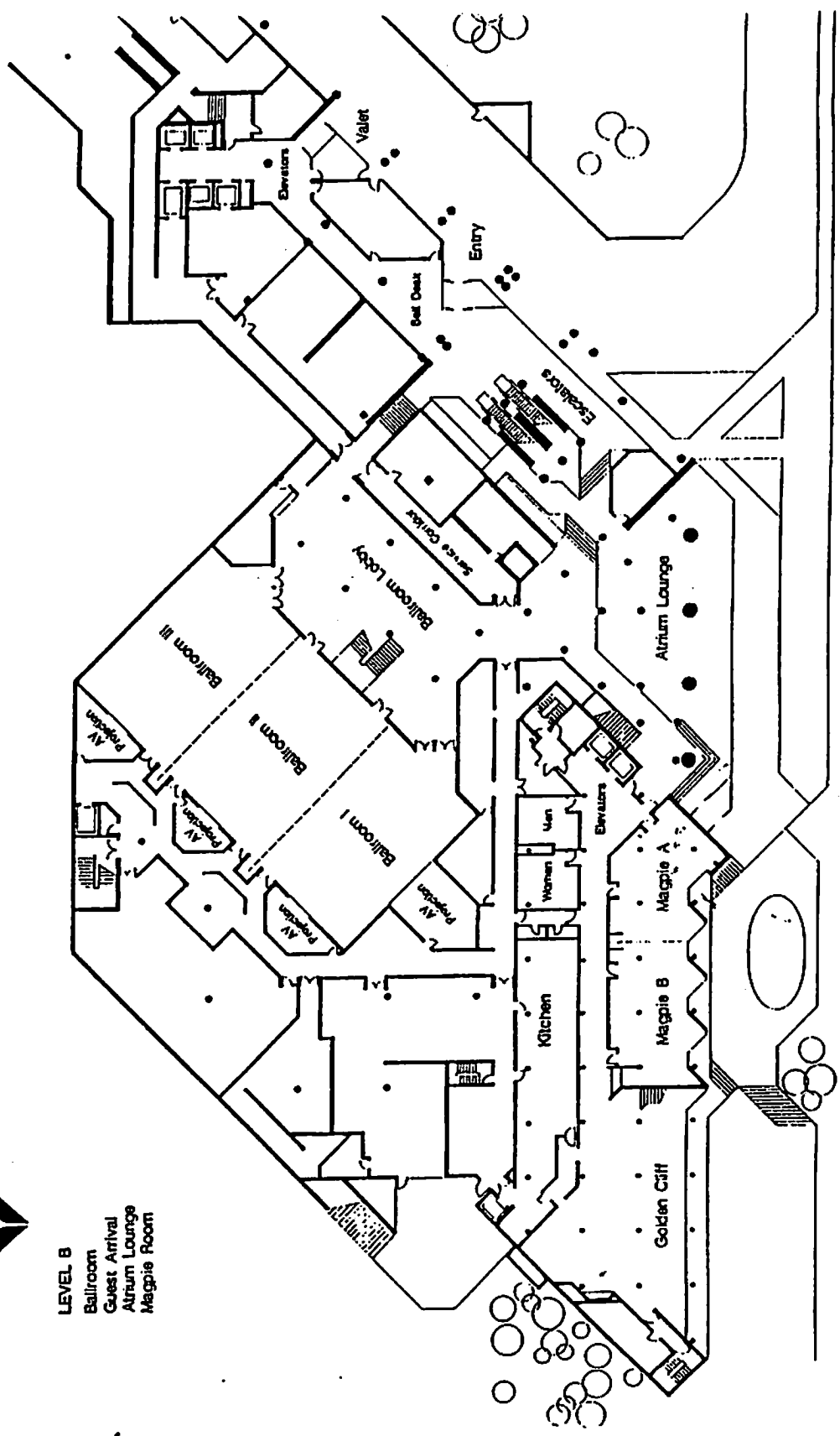
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THE CLIFF
 LODGE, SPA AND
 CONFERENCE CENTER



- LEVEL 8**
 Ballroom
 Guest Arrival
 Atrium Lounge
 Magpie Room



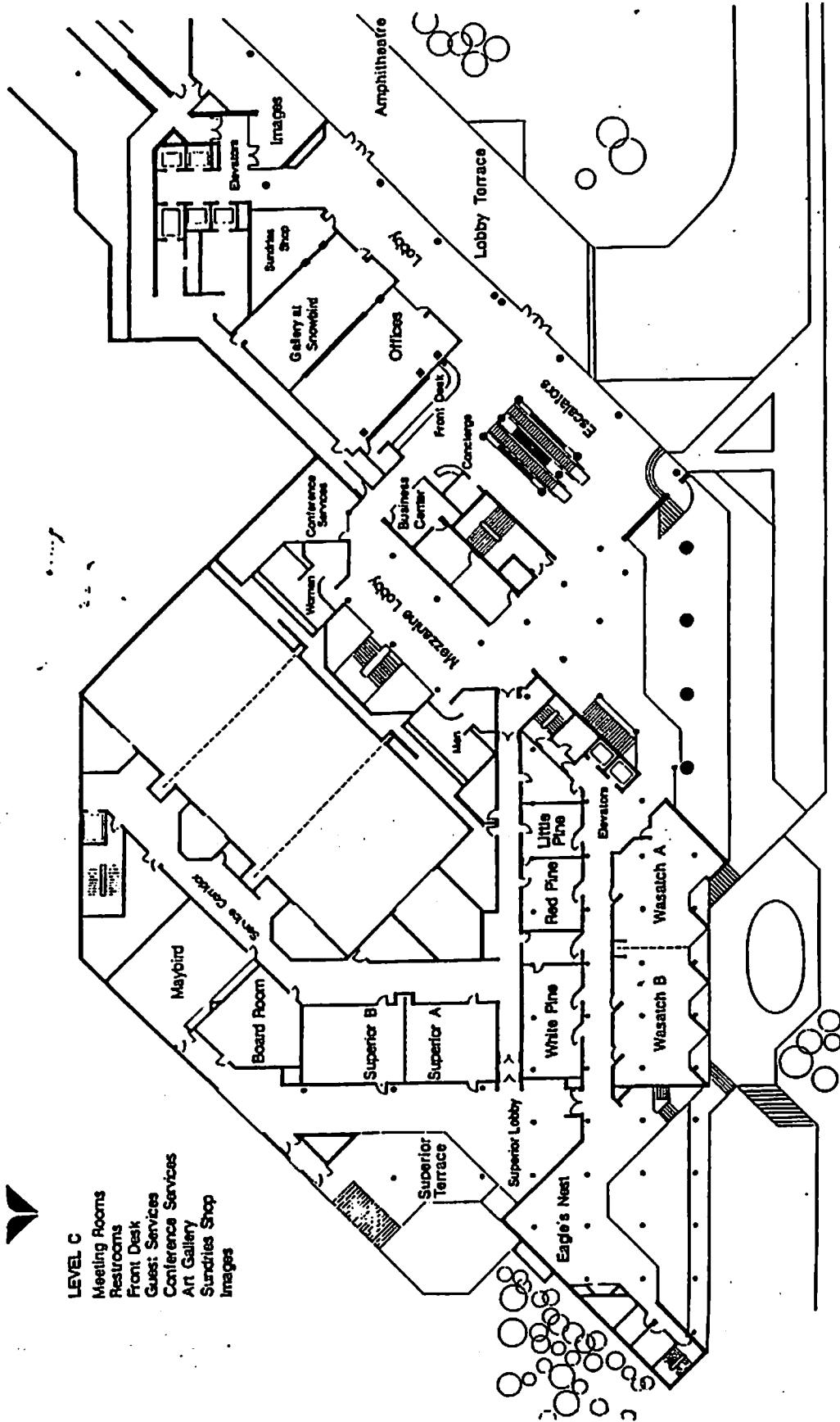
THE CLIFF

LODGE, SPA AND
CONFERENCE CENTER



LEVEL C

- Meeting Rooms
- Restrooms
- Front Desk
- Guest Services
- Conference Services
- Art Gallery
- Sundries Shop
- Images



SNOWBIRD CENTER

Snowbird Center, the heart of activity in the village, is just a short walk from the Cliff Lodge and Snowbird's condominium lodges: The Lodge at Snowbird, The Inn and Iron Blossam Lodge.

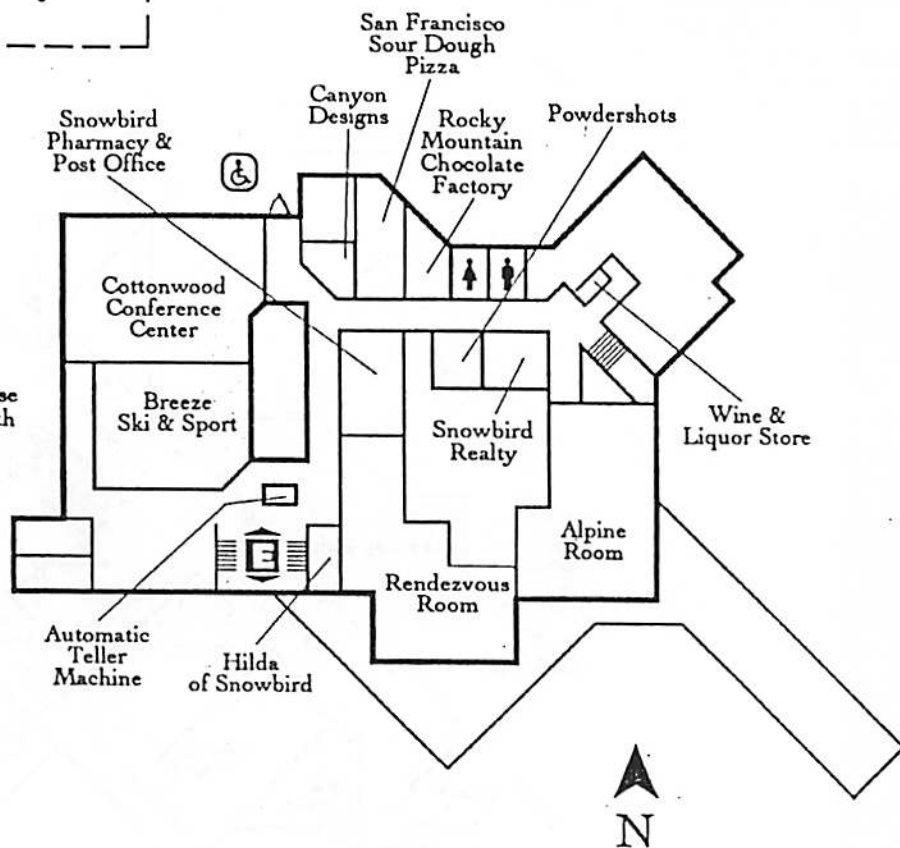
At Snowbird Center you'll find interesting shops and restaurants, as well as the Comedy Circuit, the Aerial Tram, a pharmacy and post office, grocery store/deli and meeting rooms, including: the Cottonwood Conference Center, Alpine Room, Peruvian Room and Rendezvous Room.

In the summer, just north of Snowbird Center, you'll find the Snowbird Event

Snowbird
Event Center
(summer only)

Level 2

From the Cliff Lodge, use the entrance on the north side of building. See other side for Levels 1, 3



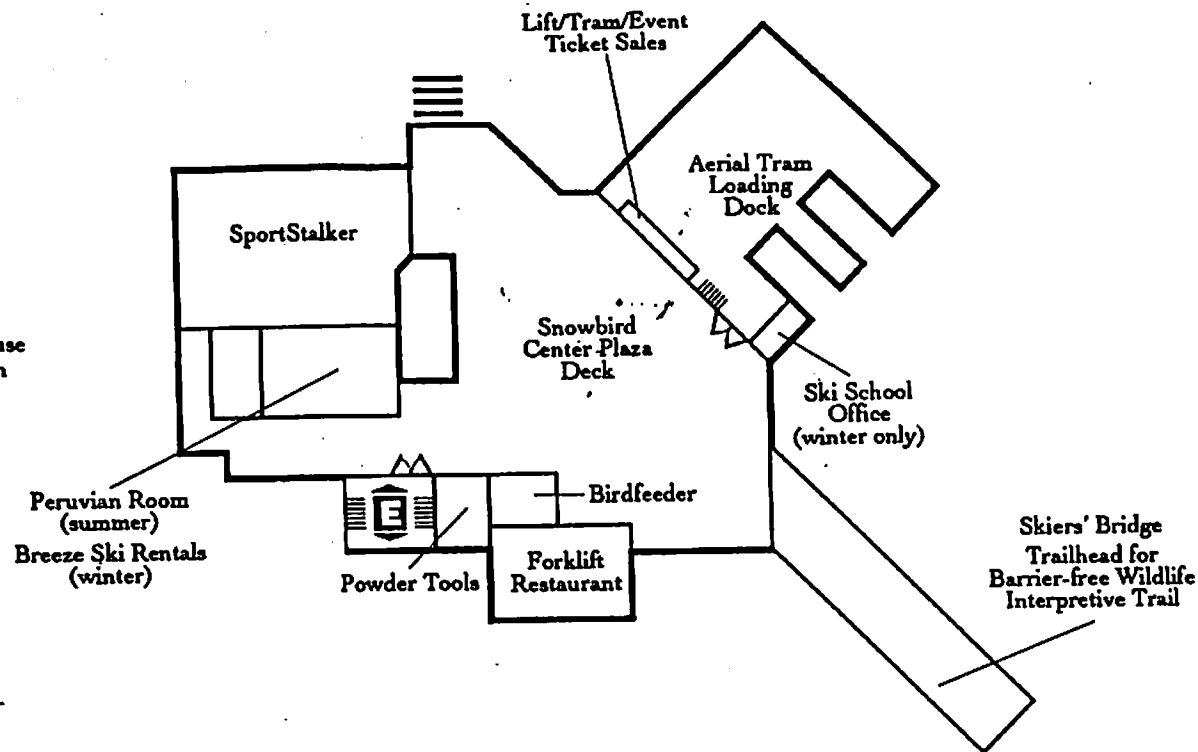
Center, home of the Utah Jazz & Blues Festival and Snowbird's annual Oktoberfest Celebration. On the south side of the building, across the skiers' bridge on Level 3, is the trailhead for

Snowbird's Barrier-free Wildlife Interpretive Trail. This paved trail gently winds its way through aspens and wildflower meadows to a deck with a spectacular view down Little Cottonwood Canyon.



Level 3

From the Cliff Lodge, use the stairs on the north side of building.



Level 1

From the Lodge at Snowbird, the Inn and Iron Blossam Lodge, use the main entrance at the southwest corner of the building.

