JOINT MEETING OF

THE AMERICAN SOCIETY OF NATURALISTS

THE SOCIETY OF SYSTEMATIC BIOLOGISTS

THE SOCIETY FOR THE STUDY OF EVOLUTION

AT

THE UNIVERSITY OF CALIFORNIA, BERKELEY

CLARK-KERR CAMPUS

JUNE 17-21, 1992

MEETING ORGANIZER: MONTGOMERY SLATKIN

MEETING PROGRAM

SUMMARY SCHEDULE OF EVENTS

WEDNESDAY, JUNE 17

SSB Council Meeting	3:00- 6:00 p.m.	Building 1, Room D1
SSE Council Meeting	3:00- 6:00 p.m.	Building 10 Executive Dining Room
Registration	5:00- 9:00 p.m.	Building 1
Opening Reception	7:00-10:00 p.m.	Building 10, Great Hall

THURSDAY, JUNE 18

Breakfast	7:00- 8:30 a.m.	Dining Center
Registration	8:00a.m.-6:00p.m.	Building 14
Contributed Papers	8:00-12:15 p.m.	See Schedule
SSB Symposium: *"Phylogenies of Model Organisms"*		
	8:00-12:10 p.m.	Theater
Lunch	11:45- 1:30 p.m.	Dining Center
SSB Business Meeting	12:45- 1:30 p.m.	Building 1 Room D1
ASN Board Meeting	12:00- 3:00 p.m.	Building 10 Executive Dining Room
Contributed Papers	1:30- 5:45 p.m.	See Schedule
ASN Young Investigators Symposium		
	2:00- 5:00	Theater
SSE Invited Papers: *"Heritable Microorganisms of Insects"*		
	1:55- 5:30 p.m.	Building 4, Lounge
Dinner	6:00- 7:30 p.m.	Dining Center
ASN Presidential Address	7:30- 8:30 p.m.	Theater
Poster Session I	8:30-11:00 p.m.	Building 14, Rooms 203, 204
(Liquid refreshment will be served)		

FRIDAY, JUNE 19

Breakfast	7:00- 8:30 a.m.	Dining Center
Registration	8:00a.m.-6:00p.m.	Building 14
Contributed Papers	8:00-12:15 noon	See Schedule
ASN Symposium: *"Evolutionary Responses to Environmental Stress"*		
	8:30-12:00 noon	Theater
Posters from Session I on display	8:00-12:00	Building 14, Rooms 203-204
Lunch	11:45- 1:30 p.m.	Dining Center
ASN Business Meeting	1:00- 1:30 p.m.	Building 1, Room D1
SSE Council Meeting (If necessary)	12:15- 1:30 p.m.	Building 10 Executive Dining Room
Contributed Papers	1:30- 5:45 p.m.	See Schedule
SSE Symposium: *"Evolution of Developmental Polymorphisms"*		
	1:30- 5:15 p.m.	Theater
Thai Banquet and SSE Presidential Address (Ticket required)		
	7:00- 9:30 p.m.	Pauley Ballroom Student Union

(Reserved shuttle bus will depart every 10 minutes between 6:30 and 7:00 p.m. from oval drive in front of Building 1)

SATURDAY, JUNE 20

Breakfast	7:00- 8:30 a.m.	Dining Center
Registration	8:00a.m.-6:00p.m.	Building 14
Contributed Papers	8:00-12:15 noon	See Schedule
SSE Symposium: *"Evolution in the Fungi: Patterns and Processes"*		
	8:00-12:00 noon	Theater
Lunch	11:45- 1:30 p.m.	Dining Center
SSE Business Meeting	12:45- 1:15 p.m.	Building 10 Executive Dining Room
Contributed Papers	1:30- 5:45 p.m.	See Schedule
SSE Symposium: *"Coalescent Theory and Its Application to Population Genetics and Phylogenetics"*		
	1:30- 5:00 p.m.	Theater
Dinner	6:00- 7:30 p.m.	Dining Center
SSB Presidential Address	7:30- 8:30 p.m.	Theater
Poster Session II	8:30-11:00 p.m.	Building 14, Rooms 203-204
(Liquid refreshment will be served)		

SUNDAY, JUNE 21

Breakfast	7:00- 8:30 a.m.	Dining Center
Contributed Papers	8:00-12:15	See Schedule
SSE Symposium: *"Molecular Evolution of Development and Gene Expression"*		
	8-30-12:00	Theater
Posters from Session II on display	8:00-12:00	Building 14, Rooms 203-204
Check out of dormitory by 1:00 p.m.		

NOTE: The sessions will **BREAK** each day from 10:00-10:30 a.m. and 3:00-3:30 p.m. Coffee, tea and other refreshments will be served on the patio.

The book display will be in Building 14, Room 102 and 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.

Poster Presenters: In the program below, each poster has been assigned a number corresponding to a reserved space in Room 203-204 of Building 14. 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 Thursday evening, 8:30-11:00 p.m. Session I posters may be left on display Friday morning, but must be removed at the lunch hour. Poster Session II will take place on Saturday evening, 8:30-11:00 p.m.; these posters may remain on display to the end of the meeting.

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

Session I: Thursday, June 18, 4:00-6:00 p.m. (The room will remain open until the session.)

Session II: Saturday, June 20, 4:00-6:00 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

Time	Building 3	Building 4	Building 7	Building 8	Theater
Th. a.m. I 8-10:00	Genetic Population Structure	Behavior & Evolution	Hybrid Zones & Speciation	Plants: Mating Systems & Inbreeding	SSB Symposium Phylogenies of Model Organisms 8:00-11:45
Th. a.m. II 10:30-12:00	Genetic Population Structure	Life History Evolution: Theory	Hybrid Zones & Speciation	Plants: Mating Systems & Inbreeding	
Th. p.m. I 1:30-3:00	Genetic Population Structure	SSE Invited Papers: Heritable Micro-organisms of Insects 1:55-5:00	Hybrid Zones & Speciation	Plants: Mating Systems, Reprod. Biology	ASN Young Investigators Symposium 2:00-4:30
Th. p.m. II 3:30-5:15	Genetic Population Structure		Hyb. Zones & Spec.; Systematic Methods	Plants: Mating Systems, Reprod. Biology	
Fri. a.m. I 8:00-10:00	Gen. Pop. St.; Pop. Gen. of Endangered Species	Life History Evolution, Animals	Systematic Methods	Plants: Reprod. Biol., Gender Allocation	ASN V.P. Symp. Response to Environmental Stress 8:30-11:30
Fri. a.m. II 10:30-11:45	Pop. Gen. of Endang. Species; Ecol. Genetics	Life History Evolution, Animals	Molecular Phylogenetics	Plants: Reproductive Biology	
Fri. p.m. I 1:30-3:00	Quantitative & Ecological Genetics	Life History Evolution, Animals	Molecular Phylogenetics	Molecular Evolution	SSE Symposium Developmental Polymorphisms 1:30-4:45

Time	Building 3	Building 4	Building 7	Building 8	Theater
Fri. p.m. II 3:30-5:15	Quantitative & Ecological Genetics	Life Hist. Evolution; Pop. & Community Ecology	Molecular Phylogenetics	Molecular Evolution	
Sat. a.m. I 8:00-10:00	Genetics of Host/Parasite Interactions	Pop. & Community Ecol.; Sexual Selection	Molecular Phylogenetics	Molecular Evolution	SSE Symposium Evolution in the Fungi 8:00-11:30
Sat. a.m. II 10:30-11:45	Genetics of Plant/Herbivore Interactions	Sexual Selection	Molecular Phylogenetics	Molecular Evolution	
Sat. p.m. I 1:30-3:00	Genetics of Plant/ Herb. Inter.; Maint. of Genet. Variation	Sexual Selection	Molecular Phylog.; Phylogeny & Character Evol.	Plants: Reproductive Biology	SSE Symposium Coalescent Theory 1:30-4:15
Sat. p.m. II 3:30-5:30	Ecol. Gen.: Maintenance of Genetic Variation	Sexual Selection; Sex Ratios; Evolution of Sex	Phylogeny & Character Evolution	Plants: Reprod. Biol.; Pop. Struct.	
Sun. a.m. I 8:00-10:00	Quantitative & Ecol. Genetics; Growth, Dev. & Evolution	Evolution of Sex	Phylog. & Char. Evol.; Paleo. & Macroevol.	Plants: Pop. Struc; Dem., Pheno. Plast.	SSE Symposium Mol. Evol. of Dev. & Gene Expression 8:30-11:15
Sun. a.m. II 10:30-12:00	Growth, Development & Evolution		Paleobiology & Macroevolution	Plants: Phenotypic Plasticity	

NOTE ON PROGRAM DESIGN: Similar biology topics were grouped in an attempt to form coherent sequences of topics. Subject to scheduling constraints, every attempt was made to place speakers in their first choice sessions. Categories are necessarily coarse and overlapping; read the whole program to find all papers on a given subject.

SCIENTIFIC PROGRAM (Chronological Order)

THURSDAY MORNING **THEATER**

SSB SYMPOSIUM: PHYLOGENIES OF MODEL ORGANISMS
MODERATOR: E.A. KELLOGG

8:00 E.A. KELLOGG; J.A. BIRCHLER. Arnold Arboretum, Harvard University. *Zea.*

8:25 **I. Al-SHEHBAZ.** Missouri Botanical Garden; **R.A. PRICE.** Indiana University. *Arabidopsis.*

8:50 **R. DESALLE; D. GRIMALDI.** American Museum of Natural History. *Drosophila.*

9:15 **W.K. THOMAS.** University of California at Berkeley. *Caenorhabditis.*

9:40 **D.E. DYKHUIZEN.** State University of New York at Stony Brook. *Escherichia.*

10:05 **BREAK**

10:30 **B. BOWMAN; M. BIRBEE; J. TAYLOR; T. WHITE.** University of California at Berkeley. *Yeast, Neurospora, and Aspergillus.*

10:55 **R.D. SAGE.** University of Missouri; **W.R. ATCHLEY.** North Carolina State University. *Mus.*

11:20 **D.C. CANNATELLA.** University of Texas. *Xenopus.*

11:45 **H.B. SHAFFER.** University of California at Davis. *Ambystoma.*

THURSDAY MORNING I **LOUNGE, Building 3**

Contributed papers 1: GENETIC POPULATION STRUCTURE
CHAIR: SEAN H. RICE

8:00 **RICE, SEAN H.**--University of California at Berkeley. *The conditions under which between-group selection will influence evolutionary dynamics.*

8:15 **TANAKA, YOSHINARI**--University of Oregon. *A quantitative genetic model of group selection: an implication for the shifting balance.*

8:30 **MOORE, FRANCIS B.-G.**--Kellogg Biological Station. *A simulation of Wright's shifting balance process: migration and the three phases.*

8:45 **WAGNER, ANDREAS; GUNTER P. WAGNER**--Yale University. *Shifting balance and epistatic gene complexes: insights from a two-locus model.*

9:00 **PHILLIPS, PATRICK C.**--University of Wisconsin at Madison. *Wright's shifting balance theory: peak shifts and polymorphism.*

9:15 **GOODNIGHT, CHARLES**--University of Vermont. *Epistasis and the effect of migration in structured populations.*

9:30 **SCHWARTZ, JAMES M.**--University of Vermont. *Population bottlenecks and genetic variance: an experimental study.*

9:45 **CHU, PO HSING**--DePaul University. *Using evolutionary models to find optima in difficult combinatorial problems: effect of population structure in a genetic algorithm.*

10:00 **BREAK**

THURSDAY MORNING I **LOUNGE, Building 4**

Contributed papers 2: BEHAVIOR AND EVOLUTION
CHAIR: DEBORAH M. GORDON

8:00 **QUELLER, DAVID**--Rice University. *A simple and general formulation of inclusive fitness theory.*

8:15 **RICHARDS, MIRIAM; JOHN TAYLOR; LAURENCE PACKER**--York University. *The evolution of social behaviour in sweat bees of the genus Halictus (Hymenoptera: Halictidae).*

8:30 **CRESPI, BERNARD J.**--Simon Fraser University. *Altruism under haplodiploidy: the social behavior of a female-dimorphic Australian gall thrips (Insecta: Thysanoptera).*

8:45 **LYNCH, ALEJANDRO**--Royal Ontario Museum. *Cultural diversity in song memes in peripherally isolated populations of chaffinches.*

9:00 **RUZZANTE, DANIEL E.; ROGER W. DOYLE**--Dalhousie University. *Rapid changes in agonistic and schooling behavior in Medaka (Oryzias latipes) during selection for competitive growth.*

9:15 **DYER, LEE**--University of Colorado. *The importance of predation and plant chemistry in the evolution of host specialization: selection pressure from the giant tropical ant, Paraponera clavata.*

9:30 **GORDON, DEBORAH M.**--Stanford University. *Behavioral flexibility and the foraging ecology of seed-eating ants.*

9:45 **SAUL, LEIF**--University of California at Berkeley. *A game-theory model of a wandering forager's response to potential competitors.*

10:00 **BREAK**

THURSDAY MORNING I **LOUNGE, Building 7**

Contributed papers 3: HYBRID ZONES AND SPECIATION
CHAIR: DAPHNE J. FAIRBAIRN

8:00 **ARNOLD, MICHAEL L.**--University of Georgia. *Interspecific pollen competition and reproductive isolation in Louisiana irises.*

8:15 **CRUZAN, MITCHELL B.; M. L. ARNOLD**--University of Georgia. *Ecological associations of cpDNA and RAPD markers in a hybrid Iris population.*

8:30 **YOUNG, NELSON D.**--Cornell University. *Multiple markers in hybrid zone analysis: Pacific Coast irises.*

8:45 **ORR, MATTHEW**--University of California at Davis. *Adaptation to altitude in a grasshopper hybrid zone.*

9:00 **HARRISON, RICHARD**--Cornell University. *Use of nuclear RFLPs to analyze pattern and process in a field cricket hybrid zone.*

9:15 **GALLANT, S.; R. PREZIOSI; D. FAIRBAIRN**--Concordia University. *Discovery of a restricted hybrid zone within a waterstrider species complex. Evidence of secondary intergradation?*

9:30 **PARSONS, THOMAS J.; MICHAEL J. BRAUN**--Smithsonian Institution. *Unidirectional introgression of male secondary sexual plumage traits across an avian hybrid zone (genus Manacus).*

9:45 **HOSTERT, ELLEN E.; WILLIAM R. RICE**--University of California at Santa Cruz. *Parapatry, geography, and speciation.*

10:00 **BREAK**

THURSDAY MORNING I **LOUNGE, Building 8**

Contributed papers 4: PLANTS: MATING SYSTEMS AND INBREEDING
CHAIR: KEITH KAROLY

8:00 **KAROLY, KEITH**--State University of New York at Stony Brook. *Inbreeding depression and the mating system: within population variation in the annual Lupinus nanus (Leguminosae).*

8:15 **CARR, DAVID E.; MICHELE R. DUDASH**--University of Maryland at College Park. *Components of inbreeding depression in Mimulus guttatus: from germination through pollen and ovule production.*

8:30 **LATTA, ROBERT G.**--University of Toronto. *Inbreeding depression in Mimulus spp. in relation to levels of prior inbreeding.*

8:45 **DOLE, JEFFEREY; KERMIT RITLAND**--University of Montana, *Inbreeding depression in two Mimulus taxa measured by multigenerational changes in the inbreeding coefficient.*

9:00 **DELPH, LYNDA F.; SANDRA L. DAVIS**--Indiana University. *Mixed mating and inbreeding depression in a gynomonoecious plant.*

9:15 **ECKERT, CHRISTOPHER G.; SPENCER C.H. BARRETT**--University of Toronto. *Mating systems and inbreeding depression in tristylous Decodon verticillatus (Lythraceae).*

9:30 **KARKKAINEN, KATRI ANNELI; O. SAVOLAINEN**--University of Oulu, Finland. *Early inbreeding depression determines the mating system variation in scots pine.*

9:45 **MAYER, STEPHANIE S.; DEBORAH CHARLESWORTH**--University of Chicago. *A study of inbreeding depression in four populations of the annual plant Colliasia heterophylla.*

10:00 **BREAK**

THURSDAY MORNING II **LOUNGE, Building 3**

Contributed papers 5: GENETIC POPULATION STRUCTURE
CHAIR: ROBERT WISOTZKEY

10:30 **CAMPBELL, R.B.**--University of Northern Iowa. *Inbreeding and the number of alleles at equilibrium with mutation.*

10:45 **WHITLOCK, MICHAEL**--University of Chicago. *The maintenance of additive genetic variation in a two-locus island model.*

11:00 **KOENIG, WALT**--Hastings Natural History Reservation, University of California. *Philopatry, detectability, and the distribution of dispersal distances.*

11:15 **EPPERSON, BRYAN K.**--University of California at Riverside. *Patterns of gene flow and genetic isolation by distance.*

11:30 **WISOTZKEY, ROBERT**--University of Hawaii. *The distribution of two dispersed middle repetitive elements in the Hawaiian Drosophila.*

11:45 **GERBER, ANNE S.**--Washington University. *Population subdivision in Trimerotropis saxatilis (Acrididae).*

12:00 **DUFFY, J. EMMETT**--University of North Carolina. *Host use patterns and population structure in tropical sponge-dwelling shrimps: implications for speciation mechanisms.*

THURSDAY MORNING II **LOUNGE, Building 4**

Contributed papers 6: LIFE HISTORY EVOLUTION: THEORY

CHAIR: STEVEN ORZACK

10:30 **FRUMHOFF, PETER C.**--University of Maryland; **WILLIAM H. BOSSERT**--Harvard University. *Maternal investment in seasonal environments: the adaptive value of complex strategies.*

10:45 **ORZACK, STEVEN**--University of Chicago; **ELLIOTT SOBER**--University of Wisconsin. *ESS models and the long-run test of adaptationism.*

11:00 **VASI, FARIDA**--Michigan State University. *Evolution of life history characters in a periodic environment.*

11:15 **FOX, GORDON A.**--University of Arizona. *Can demographic stochasticity bias life history evaluation?*

11:30 **WIENER, PAM**--Stanford University. *Migration in variable environments: exploring life history evolution using structured population models.*

11:45 **VASCO, DANIEL A.**--University of Texas at Austin. *On the principle of evolutionary stability in evolutionary biology.*

THURSDAY MORNING II **LOUNGE, Building 7**

Contributed papers 7: HYBRID ZONES AND SPECIATION

CHAIR: WILLIAM J. ETGES

10:30 **WELLS, MARTA MARTINEZ**--University of Connecticut. *Behavioral responses of hybrid lacewings (Neuroptera: Chrysopidae: Chrysoperla) to courtship songs.*

10;45 **SHAW, KERRY L.**--Washington University. *The quantitative genetics of interspecific song differences between two species of Hawaiian crickets (genus Laupala).*

11:00 **GREGORY, PAMELA G.; DANIEL J. HOWARD**--New Mexico State University. *Multiple mating and sperm competition in the ground crickets Allonemobius fasciatus and A. socius.*

11:15 **ETGES, WILLIAM J.**--University of Arkansas. *Causes for premating isolation among populations of cactophilic Drosophila mojavensis.*

11:30 **STOLTENBERG, SCOTT F.; JERRY HIRSCH**--University of Illinois. *A long term (35+ years) divergent (intermittent) selection experiment on a behavioral trait in Drosophila melanogaster has produced evolved populations that may prove useful for the study of speciation.*

11:45 **FEDER, JEFFREY; CATHY REYNOLDS; WES GO**--University of Chicago. *The ecology of host race formation in Rhagoletis pomonella: differential resource competition for larvae infesting apples and hawthorns.*

12:00 **SPISAK, STEVEN**--California State University; **JEFFREY FEDER**--University of Chicago; **SUSAN OPP; KATHY REYNOLDS**--California State University. *Host fidelity in Rhagoletis pominella as indicated by mark recapture technique.*

THURSDAY MORNING II **LOUNGE, Building 8**

Contributed papers 8: PLANTS: MATING SYSTEMS AND INBREEDING

CHAIR: LISA P. RIGNEY

10:30 **WALLER, DONALD M.**--University of Wisconsin. *Does a history of inbreeding decrease inbreeding depression?*

10:45 **HOLSINGER, KENT E.**--University of Connecticut. *Mass-action models of plant mating systems--the role of inbreeding depression.*

11:00 **RIGNEY, LISA P.**--State University of New York at Stony Brook. *Inbreeding depression in Erythronium grandiflorum: six years of data on a long-lived perennial.*

11:15 **BARRETT, SPENCER C.H.**--University of Toronto. *Patterns of style length variation in Narcissus (Amaryllidaceae) and the evolution of heterostyly.*

11:30 **MCCALL, CLAIRE**--Trinity University. *Heterostyly and its relationship to offspring fitness in hoary puccoon (Lithospermum croceum).*

11:45 **STONE, JUDY L.; JAMES D. THOMSON**--State University of New York at Stony Brook. *The evolution of distyly: pollen transfer by bees between artificial flowers.*

12:00 **CRUZAN, MITCHELL B.**--University of Georgia; **S.C.H. BARRETT**--University of Toronto. *Ecological and physiological determinants of the mating system in Eichhornia panicalata.*

THURSDAY AFTERNOON **THEATER**

ASN YOUNG INVESTIGATORS SYMPOSIUM

ORGANIZER: J. TRAVIS, Florida State University

2:00 **AVILES, LETICIA.** Harvard University. *Levels of selection and sex ratio evolution in social spiders.*

2:30 **BRODIE III, EDMUND D.** University of California at Berkeley. *Correlational selection and genetic integration in natural populations of snakes.*

3:00 **BREAK**

3:30 **FAJER, ERIC D.** Harvard University. *Effects of CO_2 enrichment on plant-herbivore interactions.*

4:00 **ORR, H. ALLEN.** University of California at Davis. *The genetics of speciation in Drosophila.*

4:30 **WOOTTON, J. TIMOTHY.** University of California at Berkeley. *Using path analysis to predict the importance of direct and indirect interactions in food webs.*

THURSDAY AFTERNOON **LOUNGE, Building 4**

SSE INVITED PAPERS: HERITABLE MICROORGANISMS OF INSECTS

ORGANIZER: J. WERREN

1:55 Introduction: J. Werren

2:00 **S. O'NEILL.** Yale University. *Phylogeny and mechanisms of action of cytoplasmic incompatibility microorganisms.*

2:30 **A. HOFFMAN.** La Trobe University, Australia. *Population biology of cytoplasmic incompatibility microbes in Drosophila.*

3:00 **BREAK**

3:30 **B. CAMPBELL.** United States Department of Agriculture, Albany, California. *Heritable symbionts in herbivorous insects.*

4:00 **S. SKINNER.** Indiana University. *Sex ratio distorting microorganisms of Nasonia.*

4:30 **J. BREENWER.** University of Rochester. *Microbes associated with parthenogenesis and incompatibility in Hymenoptera.*

5:00 **J. WERREN.** University of Rochester. *Heritable microorganisms-- what a way to make a living.*

THURSDAY AFTERNOON I **LOUNGE, Building 3**

Contributed papers 9: GENETIC POPULATION STRUCTURE

CHAIR: GEORGE I. MATSUMOTO

1:30 **FUGATE, MICHAEL**--University of California at Riverside. *Relationship of populations within four species of fairy shrimp.*

1:45 **BOULDING, ELIZABETH; J. BOOM, A.T. BECKENBACH**--Simon Fraser University. *Genetic variation in one bottlenecked and two wild populations of scallops; parameter estimates from coding and non-coding regions of mtDNA.*

2:00 **KATOH, MASAYA; DAVID W. FOLTZ**--Louisiana State University. *Large genetic and morphological variation among and within drainage systems in a freshwater snail species complex.*

2:15 **HELLBERG, MICHAEL E.**--University of California at Davis. *Limited dispersal and broad geographic range: patterns of gene flow in the solitary coral Balanophyllia elegans.*

2:30 **MATSUMOTO, GEORGE I.**--Monterey Bay Aquarium Research Institute. *Genetic identification and characterization of siphonophores and ctenophores.*

2:45 **CASWELL-CHEN, E.P.; V.M. WILLIAMSON; F. F. WU**--University of California at Davis. *Random amplified polymorphic DNA analysis of Heterodera cruciferae (Nematoda) and H. schachtii populations.*

3:00 **BREAK**

THURSDAY AFTERNOON I **LOUNGE, Building 7**

Contributed papers 10: HYBRID ZONES AND SPECIATION

CHAIR: MARGARET B. PTACEK

1:30 **MEFFERT, LISA M.**--University of Houston. *Escape from inbreeding depression and apparent evolutionary constraints in non-reproductive behavior of serially bottlenecked lines of the housefly.*

1:45 **LEVY, FROSTY**--East Tennessee State University. *Localization of factors causing hybrid sterility in Phacelia.*

2:00 **GROTH, JEFFREY G.**--American Museum of Natural History. *Allozyme and mtDNA sequence comparisons of sympatric sibling species of crossbills (Loxia, Fringillidae).*

2:15 **PTACEK, MARGARET B.; H. CARL GERHARDT**--Florida State University. *Multiple origins of the tetraploid gray treefrog, Hyla versicolor: evidence from mitochondrial DNA and advertisement calls.*

2:30 **ANNETT, CYNTHIA A.; RAYMOND PIEROTTI**--University of Arkansas. *Male parental care, mate choice and hybridization in vertebrates: does monogamy counteract reproductive isolation?*

2:45 **YU, ALEX HON-TSEN**--University of California at Berkeley. *Patterns of diversification and gene flow of small mammals in the Southeast Asia.*

3:00 **BREAK**

THURSDAY AFTERNOON I **LOUNGE, Building 8**

Contributed papers 11: PLANTS: MATING SYSTEMS, REPRODUCTIVE BIOLOGY

CHAIR: JOSHUA R. KOHN

1:30 **KOHN, JOSHUA R.**--University of California at San Diego; **SPENCER C.H. BARRETT**--University of Toronto. *Morph structure alters the reproductive success of a selfing variant in experimental populations of Eichhornia paniculata.*

1:45 **HARDER, LAWRENCE D.; SPENCER C.H. BARRETT**--University of Calgary. *Anther position influences on pollen removal from tristylous Pontederia cordata.*

2:00 **BERTIN, ROBERT**--Holy Cross College. *On the adaptive significance of dichogamy in angiosperms.*

2:15 **LITCHFIELD, LARA B.; ELIZABETH E. LYONS**--Amherst College. *Correlations among sequential stages of reproduction in selfing and outcrossing taxa of Leavenworthia.*

2:30 **CHRISTIANSEN, CATHERINE; ELIZABETH E. LYONS**--Amherst College. *Floral evolution and the evolution of selfing in the mustard genus Leavenworthia.*

2:45 **LYONS, ELIZABETH E.**--Amherst College. *The coevolution of floral traits and the evolution of selfing in the mustard genus Leavenworthia.*

3:00 **BREAK**

THURSDAY AFTERNOON II **LOUNGE, Building 3**

Contributed papers 12: GENETIC POPULATION STRUCTURE
CHAIR: MARY PEACOCK

3:30 **DEGNAN, SANDIE**--University of California at Santa Barbara. *DNA finger printing and genetic variability in island populations of silver eyes (Aves: Zosterops lateralis).*

3:45 **EDWARDS, SCOTT V.**--University of California at Berkeley. *Control region sequences in grey-crowned babblers: mitochondrial gene flow in a cooperative breeder.*

4:00 **KLEIN, NEDRA**--University of Michigan. *Demography and insularity in yellow warblers: effects on genetic population structure.*

4:15 **ZINK, ROBERT M.**--Louisiana State University. *Gene flow, refugia, and evolution of geographic variation in the song sparrow.*

4:30 **WAYNE, ROBERT K.**--Institute of Zoology, London. *Population genetics of highly mobile wolf-like carnivores.*

4:45 **JACKMAN, TODD; DAVID WAKE**--University of California at Berkeley. *Discordance between allozyme and mitochondrial DNA geographic patterns in the plethodontid salamander Ensatina eschscholtzii.*

5:00 **SCHNEIDER, CHRIS**--University of California at Berkeley. *Mitochondrial DNA diversity in Ensatina eschscholtzii supports a northern origin and reveals microgeographic population structure.*

THURSDAY AFTERNOON II **LOUNGE, Building 7**

Contributed papers 13: HYBRID ZONES AND SPECIATION; SYSTEMATIC METHODS
CHAIR: CLIFFORD W. CUNNINGHAM

3:30 **MICHEL, ELLINOR**--University of Arizona. *Do differences in feeding structures maintain the extraordinary endemic diversity in Lake Tanganyika? A study of radulas in the Lavigeria gastropod species flock.*

3:45 **GREEN, DAVID W.**--McGill University. *The fractal nature of phylogeny and the significance of non-linear dynamics for evolutionary thought.*

4:00 **CARPENTER, KENT E.**--Food and Agriculture Organization of the United Nations, Italy. *A method for choosing optimal cladistic and quantitative evolutionary systematic Linnaean classifications of fusilier fishes (Perciformes: Caesionidae).*

4:15 **DE QUEIROZ, KEVIN**--Smithsonian Institution. *Towards a phylogenetic system of taxonomy: reorganizing the rules of nomenclature around the tenet of common descent.*

4:30 **ZHARKIKH, ANDREY; WEN-HSIUNG LI** --University of Texas at Houston. *Statistical properties of bootstrap estimation of phylogeny from nucleotide sequences.*

4:45 **CUNNINGHAM, CLIFFORD W.**--University of Texas at Austin. *Evaluating methods of phylogenetic inference using experimentally generated phylogenies.*

5:00 **HUELSENBECK, JOHN P.; DAVID M. HILLIS**--University of Texas at Austin. *The efficiency of phylogenetic methods: an examination of the four-taxon case.*

5:15 **DEBRY, RONALD**--Florida State University. *Correlation between parsimony and likelihood results for several nucleotide sequence data sets.*

THURSDAY AFTERNOON II **LOUNGE, Building 8**

Contributed papers 14: PLANTS: MATING SYSTEMS, REPRODUCTIVE BIOLOGY

CHAIR: MARTIN MORGAN

3:30 **RONSHEIM, MEG**--Vassar College. *A test of the elbow room model for the evolution of sex using sexual and asexual progeny of Allium vincale.*

3:45 **COLEMAN, JERRY G.**--University of Texas at Austin. *Quantitative genetic analysis of life history traits in a clonal grass.*

4:00 **CARR, DAVID E.; CHARLES B. FENSTER**--University of Maryland at College Park. *Quantitative genetics of floral traits associated with mating-system evolution in Mimulus (Scrophulariaceae).*

4:15 **KARRON, JEFFREY D.**--University of Wisconsin at Milwaukee. *The influence of plant density on patterns of gene dispersal in Mimulus ringens.*

4:30 **WILLIS, JOHN H.**--University of Oregon. *Partial inbreeding biases analyses of phenotypic selection: an example from Mimulus guttatus.*

4:45 **NAKAMURA, R.R.**--California State University at Los Angeles; **B. DEVLIN; M. STANTON**--University of California at Davis; **N. ELLSTRAND**--University of California at Riverside. *Floral traits and male reproductive success in a natural population of wild radish.*

5:00 **VEKEMANS, XAVIER**--Universite Libre de Bruxelles, Belgium. *Evolution of the breeding system in Armeria maritima: geographic variation, sex allocation and population genetic structure.*

5:15 **MORGAN, MARTIN**--University of Chicago. *The selection of excess flower production in hermaphroditic plants.*

THURSDAY EVENING **THEATER**

ASN PRESIDENTIAL ADDRESS 7:30-8:30 p.m.
DR. PHILIP W. HEDRICK, Pennsylvania State University
"Evolutionary Genetics of the Major Histocompatibility Complex."

THURSDAY 8:30-11:00 PM **Building 14, ROOMS 203-204**

The poster sessions will be accompanied by complimentary liquid refreshment derived from grain.

POSTER SESSION I

1. **KASPARI, MICHAEL**--University of Texas at Austin. *Microclimate partitioning in neotropical ants: body size phylogeny and species interactions.*
2. **BRAZEAU, DANIEL A.**--University of Houston; **C. DREW HARVELL**--Cornell University. *Genetic structure of local populations and speciation in the Caribbean gorgonian Briareum asbestinum (Pallas).*
3. **DA SILVA, KAREN BURKE**--McGill University. *The 'trill' of the chase: eastern chipmunks call to warn kin.*
4. **MARKOW, THERESE ANN**--Arizona State University. *Developmental stability and male mating success in three Drosophila species.*
5. **MCMURRY, KAY; BROOK G. MILLIGAN**--University of Texas at Austin. *A maximum likelihood method of fertility estimation suitable for codominant and dominant alleles: computer simulation of matings among hermaphroditic plants.*
6. **HAUSER, THURE PAVLO**--Washington University at St. Louis. *Inbreeding depression and population structure in Lychnis flos-cuculi (Caryophyllaceae).*
7. **LE CORFF JOSIANE**--University of Miami. *Establishment of chasmogamous and cleistogamous seedlings in an ant-dispersed understory herb.*
8. **XU, SHI-ZHONG; WILLIAM M. MUIR**--Rutgers University. *Inbreeding effective population size under selection.*
9. **GAGGIOTTI, OSCAR E.**--Rutgers University. *An ecological model for the maintenance of sex and geographic parthenogenesis.*
10. **BASOLO, ALEXANDRA L.**--University of California at Santa Barbara. *Preliminary investigations of color pattern evolution in southern Platyfish.*
11. **IRSCHICK, DUNCAN; H. BRADLEY SHAFFER**--University of California at Davis. *Phylogenetic and ecological components of morphological variation in the tiger salamander (Ambystoma tigrinum).*
12. **LINHART, YAN B.**--University of Colorado. *Multi-species herbivory maintains genetic polymorphism in Thymus vulgaris (Labiatae).*
13. **TWOMBLY, SARAN**--University of Rhode Island. *Intra-and interpopulational life cycle variation in a freshwater copepod.*

14. **DERRICKSON, ELISSA MILLER; NICHOLAS JERRARD**--Loyola College. *Intraspecific and interspecific variation in milk composition in small altricial and precocial rodents.*
15. **PAVEK, DIANE; TOM MITCHELL-OLDS**--University of Montana. *Quantitative genetic variation for fitness components in natural populations of Fragaria virginiana.*
16. **FELDMAN, ROBERT A.**--University of Hawaii. *A PCR-based diagnostic test for introduced avian malaria in Hawaiian honeycreepers.*
17. **JEFFERY, DUANE E.**--Brigham Young University; **MONTE E. TURNER**--University of Akron; **JAMES L. FARMER**--Brigham Young University. *Genetic diversity of isolated populations of Drosophila pseudoobscura on the Colorado Plateau.*
18. **COLLETT, JANET I.**--University of Sussex, United Kingdom. *Making sense of allelic variation: physiological and genetic differences among the three Dipeptidases of Drosophila pseudo-obscura.*
19. **BENNINGTON, CYNTHIA C.**-- West Virginia University. *Natural selection in artificial populations of Impatiens pallida: the importance of the invisible fraction.*
20. **LEAMY, LARRY**--University of North Carolina at Charlotte. *Effects of litter size on brain size and body size in inbred and hybrid house mice.*
21. **COFFROTH, MARY-ALICE**--State University of New York at Buffalo. *Can random amplified polymorphic DNA (RAPD) markers be used to assess paternity in a clonal gorgonian coral?*
22. **FLEISCHER, ROBERT; CHERYL TARR**--National Zoological Park. *Genetic population structure in endangered Hawaiian birds.*
23. **LEEBENS-MACK, JIM; BROOK MILLIGAN**--University of Texas at Austin. *Indirect estimates of gene flow are not influenced by variation in population size.*
24. **RODERICK, GEORGE**--University of Maryland at College Park. *Population structure of Colorado potato beetles in native and managed habitats: migration rates estimated from gene frequencies and coalescence.*
25. **BALANYA, J.**--Universidad de Barcelona, Spain. *Colonizing populations of Drosophila subobscura: evolution of chromosomal clines in North America.*
26. **GIBBS, ALLEN**--University of California at Davis; **THERESE MARKOW**--Arizona State University. *Inter and intraspecific variation in Drosophila cuticular lipids.*
27. **SERRA, L.**--Universidad de Barcelona, Spain. *Analysis of quantitative traits in colonizing and palearctic populations of Drosophila subobscura.*
28. **BRAVERMAN, JOHN**--University of California at Davis. *Loss of paternal chromosome causes developmental anomalies among Drosophila hybrids.*
29. **MARLER, CATHERINE**--University of Texas at Austin. *Evolutionary change in species mating preferences in the unisexual gynogenetic hybrid, Poecilia formosa.*

30. **LOSOS, JONATHAN**--University of California at Davis; **KEN WARHEIT** -- National Museum of Natural History. *Adaptation and founder effects: field experiments with Anolis lizards.*
31. **BARRIGA I.; K. BECKENBACH; M.J. SMITH; E.B. HARTWICK**--Simon Fraser University. *Molecular phylogenetic analysis of 5 west coast Octopus spp. using mtDNA.*
32. **COURTNEY, MARK W.**--University of Southwestern Louisiana. *Chloroplast DNA in duckweed (Lemnaceae): variation within and among species.*
33. **GARCIA, PASCALE**--Universite de Montpellier II, France; **M. EDGELL**--University of North Carolina at Chapel Hill; **F. BONHOMME**--Universite de Montpellier II, France. *Evolutionary impact of repetitive families: analysis of LINE-1 retroposons deletion rate in mice.*
34. **GJETVAJ, BRANIMIR**--Queen's University. *Mitochondrial DNA sequences in the nuclear genomes of geese.*
35. **KARJALAINEN, MATTI; PAIVI KARVONEN; OUTI SAVOLAINEN**--University of Oulu, Finland. *Variation of rDNA in Pinus sylvestris.*
36. **LEHMAN, NILES.** Scripps Research Institute. *Directed evolution of ribozymes with new phenotypes.*
37. **MARTIN, SANDRA L.**--University of Colorado. *Hibernation in mammals as a model system for the role of differential gene expression in adaptive evolution.*
38. **SALAMON. HUGH**--University of California at Berkeley. *Evolution of antigen presenting molecules: disequilibrium between amino acid sites in the major histocompatibility complex.*
39. **SIMMONS, GAIL M.**--City College of New York. *Molecular evolution of hobo transposable elements in Drosophila.*
40. **TERRETT, JON**--The Natural History Museum, United Kingdom; **RICHARD H. THOMAS**----University of Nottingham, United Kingdom. *The mitochondrial genome of Cepaea nemoralis.*
41. **WU, CHUNG-I; DANIEL PEREZ; ANDREW DAVIS; NORMAN JOHNSON; ERIC CABOT; MICHAEL PALOPOLI; HOPE HOLLOCHER**--University of Chicago. *Molecular genetic studies of postmating reproductive isolation between Drosophila simulans and its two sibling species.*
42. **CHOUDHARY, MADHUSUDAN; DAVID QUELLER; JOAN STRASSMANN**--Rice University. *The phylogenetic relationships among social parasites and their hosts in polistine wasps.*
43. **POLANS, NEIL O.**--Northern Illinois University. *An evaluation of the use of RAPD markers in a cladistic analysis of Pisum.*
44. **CULLINGS, KEN**--University of California at Berkeley. *Multiple origins of mycotrophic parasitism in the Ericaceae.*
45. **GARCIA-PEREA, ROSA**--Smithsonian Institution. *Phylogenetic relationships among recent representatives of genus Lynx (Carnivora: Felidae).*
46. **SWIDERSKI, DONALD L.**--University of Michigan. *Scapula size and shape changes in the evolution of chipmunks and ground squirrels.*

47. **SLADE, ROBERT; A NITA HEIDEMAN; PETER HALE; CRAIG MORITZ**--University of Queensland. *Using PCR to detect nuclear gene variation across diverse species.*

48. **PEACOCK, MARY**--Arizona State University. *Inbreeding in pikas (Ochotona princeps): philopatry and mating patterns, a correlation?*

FRIDAY MORNING **THEATER**

ASN VICE-PRESIDENTIAL SYMPOSIUM:
EVOLUTIONARY RESPONSES TO ENVIRONMENTAL STRESS
MODERATOR: P.A. PARSONS

8:30 **P.A. PARSONS.** Waite Institute, University of Adelaide, Australia. *The importance and consequences of stress in natural populations: from life history variation to evolutionary change.*

9:00 **R.B. HUEY; J. KINGSOLVER.** University of Washington. *Evolutionary responses to extreme temperatures in ectotherms.*

9:30 **R.E. LENSKI.** Michigan State University; **A.F. BENNETT.** University of California at Irvine. *Evolutionary adaptation by Escherichia coli to changes in its thermal environment.*

10:00 **BREAK**

10:30 **F.G. HOWARTH.** Bishop Museum, Hawaii. *High-stress subterranean habitats and evolutionary change in cave inhabiting arthropods.*

11:00 **F.S. CHAPIN, III.** University of California at Berkeley. *How suites of traits have evolved in plants in response to environmental stress.*

11:30 **A.A. HOFFMAN.** La Trobe University, Australia. *Plastic vs. nonplastic responses to environmental stress in Drosophila.*

FRIDAY MORNING I **LOUNGE, Building 3**

Contributed papers 15: GENETIC POPULATION STRUCTURE;
POPULATION GENETICS OF ENDANGERED SPECIES
CHAIR: MICHAEL S. BLOUIN

8:00 **PARK, LINDA K.**--National Marine Fisheries Service. *mtDNA variation in the D-loop and ND5/ND6 regions of chum salmon (O. keta) around the Pacific Rim.*

8:15 **BLOUIN, MICHAEL S.**--Sonoma State University. *Genetic structure of parasite populations: effects of host dispersal and parasite life history.*

8:30 **RILEY, MARGARET**--Yale University. *Molecular evolution of colicin plasmids in bacteria.*

8:45 **DUNCAN, KATHLEEN E.**--University of Arizona. *Comparing patterns of genetic diversity in co-occurring related species of soil bacteria.*

9:00 **PODOLSKY, ROBERT H.**--University of California at Riverside. *Patterns of morphological variation: a tale of two populations.*

9:15 **TONKYN, DAVID W.**--Clemson University. *Optimization techniques in the genetic management of endangered species.*

9:30 **HALLEY, JOHN**--Imperial College, London. *Using genetic and demographic information to investigate past population bottlenecks. An application to elephant seals.*

9:45 **PRAY, LESLIE**--University of Vermont. *Conservation genetics: an experimental study of inbreeding depression.*

10:00 **BREAK**

FRIDAY MORNING I **LOUNGE, Building 4**

Contributed papers 16: LIFE HISTORY EVOLUTION, ANIMALS
CHAIR: DONALD B. MILES

8:00 **BEACHY, CHRISTOPHER K.**--University of Southwestern Louisiana. *Life history evolution in biphasic salamanders: constraints and hypotheses for the family Plethodontidae.*

8:15 **LEIPS, JEFF; JOSEPH TRAVIS**--Florida State University. *Comparative developmental responses to temperature and resource-level fluctuations in larvae of two closely related species of treefrogs.*

8:30 **MOREY, STEVEN R.**--University of California at Riverside. *Plasticity in amphibian metamorphosis: importance of critical thresholds.*

8:45 **PARICHY, DAVID M.; ROBERT H. KAPLAN**--Reed College. *Developmental plasticity and maternal effects on hatchling sprint speed in the frog Bombina orientalis.*

9:00 **TRAVIS, JOSEPH**--Florida State University; **JOEL TREXLER**--Florida International University; **CARLIANE JOHNSON**--Florida State University. *Variation in norms of reaction for life-history traits among clones of the unisexual fish Poecilia formosa.*

9:15 **REZNICK, DAVID**--University of California at Riverside. *Life history evolution in guppies: convergence in life history patterns.*

9:30 **ADOLPH, STEPHEN C.; WARREN P. PORTER**--University of Wisconsin. *Temperature, activity, and lizard life histories: a physiological model.*

9:45 **MILES, DONALD B.**--Ohio University. *Temporal patterns of natural selection affecting locomotion and body size in a population of Urosaurus ornatus.*

10:00 **BREAK**

FRIDAY MORNING I **LOUNGE, Building 7**

Contributed papers 17: SYSTEMATIC METHODS
CHAIR: CHRISTOPHER A. MEACHAM

8:00 **MEACHAM, CHRISTOPHER A.**--University of California at Berkeley. *Evaluation of individual morphological or molecular characters for phylogenetic analysis by probability of character compatibility.*

8:15 **ALLARD, MARC W.; MIKE M. MIYAMOTO**--University of Florida. *Testing phylogenetic approaches with empirical data as illustrated with the parsimony method.*

8:30 **KNIGHT, ALEC; DAVID P. MINDELL**--University of Cincinnati. *Substitution bias, a priori weighting of DNA sequence change, and the phylogenetic position of Fea's viper.*

8:45 **GRAYBEAL, ANNA**--Smithsonian Institution. *Identifying phylogenetically informative genes for a large and old clade of amphibians.*

9:00 **GARLAND, TED**--National Science Foundation and University of Wisconsin. *Phylogenetic analysis of covariance by computer simulation.*

9:15 **SIMON, CHRIS**--University of Connecticut. *Rate of evolution of rRNA genes, sites free to vary, and the importance of closely related species.*

9:30 **GATESY, JOHN**--American Museum of Natural History; **ELISABETH VRBA**--Yale University; **ROB DESALLE**--American Museum of Natural History. *Calibration of mtDNA evolution in antelopes using the plio-pleistocene African fossil record.*

9:45 **FARRELL, BRIAN**--Cornell University. *Rates of mitochondrial DNA evolution and the diversification of milkweed herbivores.*

10:00 **BREAK**

FRIDAY MORNING I **LOUNGE, Building 8**

Contributed papers 18: PLANTS: REPRODUCTIVE BIOLOGY, GENDER ALLOCATION
CHAIR: PAUL R. NEAL

8:00 **MAZER, SUSAN; LORNE WOLFE**--University of California at Santa Barbara. *Effects of intra-specific competition on the heritability of fitness components and sex allocation in wild radish, Raphanus sativus.*

8:15 **NEAL, PAUL R.**--Yale University. *Gender modification in an andromonoecious plant: the importance of measuring gender in successive inflorescences.*

8:30 **OLIVIERI, ISABELLE**--INRA Montpellier, France; **DENIS COUVET**--CNRS Montpellier, France; **MONTY SLATKIN**--University of California at Berkeley. *Allocation of reproductive effort in perennial plants under pollen limitation.*

8:45 **SHYKOFF, JACQUI**--Nederlands Instituut voor Oecologisch Onderzoek, The Netherlands. *Selection on pollen dispersal and siring ability: what determines allocation to pollen?*

9:00 **SPIRA, TIMOTHY P.**--Georgia Southern University; **ALLISON A. SNOW**--Ohio State University. *Interplant differences in pollen tube growth and the potential for "super males" in Hibiscus moscheutos.*

9:15 **PURRINGTON, COLIN B.**--Brown University. *Germination, sexual dimorphism and sex ratio in the dioecious perennial Silene latifolia.*

9:30 **DONOHUE, KATHLEEN**--University of Chicago. *Maternal effects and the evolution of seed dispersal in the Great Lakes Sea Rocket.*

9:45 **LEBUHN, GRETCHEN**--University of Connecticut. *Pollen packaging with unreliable pollinators.*

10:00 **BREAK**

FRIDAY MORNING II **LOUNGE, Building 3**

Contributed papers 19: POPULATION GENETICS OF ENDANGERED SPECIES; ECOLOGICAL GENETICS

CHAIR: JOHN M. BATES

10:30 **VOGLER, ALFRIED P.; ROB DESALLE**--American Museum of Natural History. *Mitochondrial DNA phylogeny and population genetics of an endangered tiger beetle.*

10:45 **BRUFORD, MICHAEL W.**--Institute of Zoology, London. *DNA fingerprinting and conservation genetics of the Mauritius pink pigeon.*

11:00 **BATES, JOHN M.**--Louisiana State University. *Genetic effects of forest fragmentation on an Amazonian antbird, Hylophylax poecilinota.*

11:15 **MALDONADO, JESUS E.**--University of California at Los Angeles. *Geographic variation of ornate shrews (Sores ornatus) based on allozyme electrophoresis.*

11:30 **AMATO, GEORGE**--New York Zoological Society. *A phylogeny of extant species and subspecies of rhinoceros based on mitochondrial DNA sequence data.*

11:45 **STANLEY, HELEN F.**--Institute of Zoology, London. *Molecular evolution and genetic diversity of the Camelidae.*

12:00 **ENDLER, JOHN A.; ANNE HOUDE**--University of California at Santa Barbara. *Geographic variation in mating preferences and dislikes in natural guppy populations.*

FRIDAY MORNING II **LOUNGE, Building 4**

Contributed papers 20: LIFE HISTORY EVOLUTION, ANIMALS

CHAIR: RAYMOND PIEROTTI

10:30 **VON DOHLEN, CAROL D.**--University of Arizona. *Secondary loss of host alternation and the evolution of asexuality in aphids.*

10:45 **BARROWCLOUGH, GEORGE F.; ROBERT F. ROCKWELL**--American Museum of Natural History. *Variance of lifetime reproductive success: problems and estimation.*

11:00 **PIEROTTI, RAYMOND**--University of Arkansas. *Age of independence, surviving the first reproductive attempt, and assessment: are these the key life history variables?*

11:15 **BOGGS, CAROL; CHARLES ROSS**--Stanford University. *The effect of adult food limitation on life history traits in Speyeria mormonia (Lepidoptera: Nymphalidae).*

11:30 **LEROI, ARMAND M.**--University of California at Irvine. *Evolution of a life-history trade-off in Drosophila melanogaster.*

11:45 **CHIPPINDALE, ADAM**--University of California at Irvine. *Evolutionary relationships between developmental and adult life-history in Drosophila.*

FRIDAY MORNING II **LOUNGE, Building 7**

Contributed papers 21: MOLECULAR PHYLOGENETICS
CHAIR: CAROL J. BULT

10:30 **HILU, KHIDIR W.**--Virginia Polytechnic Institute and State University. *5S ribosomal gene in higher plants: evolutionary and systematic considerations.*

10:45 **BULT, CAROL J.**--Smithsonian Institution. *Tribal relationships within Onagraceae: inferences from rDNA sequence data.*

11:00 **BRUNS, TOM**--University of California at Berkeley. *Evolutionary relationships within the rust fungi: evidence from the 18S rRNA gene.*

11:15 **VOGLER, DETLEV R.**--University of California at Berkeley. *Phylogenetic relationships among the North American pine stem and branch rust fungi.*

11:30 **GARGAS, ANDREA**--University of California at Berkeley. *Molecular systematics of lichenized and non-lichenized fungi (Ascomycotina) based on their 18SrDNA sequences.*

FRIDAY MORNING II **LOUNGE, Building 8**

Contributed papers 22: PLANTS: REPRODUCTIVE BIOLOGY
CHAIR: ANDREW G. STEPHENSON

10:30 **STEPHENSON, ANDREW G.**--Pennsylvania State University. *Effects of soil phosphorus levels on pollen grain size and pollen performance.*

10:45 **ROCHE, BERNADETTE**--University of North Carolina at Chapel Hill. *The effect of varying nectar production on reproductive success in Silene alba.*

11:00 **HODGES, SCOTT A.**--Rutgers University. *Stabilizing selection for nectar production in Mirabilis multiflora.*

11:15 **TRIPLETT, JIM; ELLEN L. SIMMS**--University of Chicago. *Quantitative genetics of nectar production in the field in Ipomoea purpurea.*

11:30 **DORN, LISA**--University of Montana. *Quantitative and molecular genetics of flowering time in Arabidopsis thaliana.*

11:45 **LU, YING**--Indiana University. *Influence of the timing of annual leaf senescence on the expression of demography in a perennial clonal herb, the may apple Podophyllum peltatum.*

FRIDAY AFTERNOON **THEATER**

SSE SYMPOSIUM: EVOLUTION OF DEVELOPMENTAL POLYMORPHISMS

ORGANIZERS: J. KINGSOLVER AND N. MORAN

1:30 J. KINGSOLVER. Introduction to the symposium.

1:35 **N. MORAN.** University of Arizona. *Models of developmental polymorphisms and complex life cycles in aphids.*

2:00 **D. WHEELER.** University of Arizona. *The developmental basis and evolution of developmental polymorphisms in the social Hymenoptera.*

2:25 **D. ROFF.** McGill University. *Wing dimorphism in insects.*

2:50 **BREAK**

3:30 **J. KINGSOLVER.** University of Washington. *Seasonal polymorphisms in butterfly color patterns.*

3:55 **D. HARVELL.** Cornell University. *Inducible defensive polymorphisms in colonial marine invertebrates.*

4:20 **R.D. SEMLITSCH.** University of Zurich. *Metamorphosis and paedomorphosis in amphibians: alternative life history pathways in varying aquatic environments.*

4:45 **A. MEYER.** State University of New York at Stony Brook. *Diet, heterochrony, and trophic polymorphism in cichlids.*

FRIDAY AFTERNOON I **LOUNGE, Building 3**

Contributed papers 23: QUANTITATIVE AND ECOLOGICAL GENETICS

CHAIR: ADRIANA DARIELLE BRISCOE

1:30 **SVED, JOHN**-- University of Sydney, Australia. *Selecting for high fitness chromosomes in Drosophila.*

1:45 **SPOFFORD, JANICE B.**--University of Chicago. *X-linkage constraints on multiple-allele equilibria and dynamics.*

2:00 **GAVRILETS, SERGEY**--INRA Centre de Toulouse, France. *Pleiotropy, epistasis and stabilizing selection.*

2:15 **BRISCOE, ADRIANA DARIELLE**--Stanford University. *Evolutionary and physiological theories of dominance: the R.A. Fisher-Sewell Wright debate.*

2:30 **LYNCH, MICHAEL**--University of Oregon. *The mutational meltdown.*

2:45 **HOULE, DAVID**--University of Oregon. *The genomic mutation rate for fitness in Drosophila melanogaster.*

3:00 **BREAK**

FRIDAY AFTERNOON I **LOUNGE, Building 4**

Contributed papers 24: LIFE HISTORY EVOLUTION, ANIMALS

CHAIR: DON R. LEVITAN

1:30 **CANCELED**

1:45 **MARQUET, PABLO A.; JAMES H. BROWN; MARK L. TAPER**--University of New Mexico. *Evolution of body size: consequences of an energetic definition of fitness.*

2:00 **CALDWELL, ROY L.**--University of California at Berkeley. *Costs associated with reproduction in male gonodactylid stomatopod crustaceans.*

2:15 **LEVITAN, DON R.**--University of California at Davis. *Sperm limitation and the evolution of egg size in free-spawning organisms.*

2:30 **EDMANDS, SUZANNE**--University of California at Santa Cruz. *Life history tactics and phylogenetic relationships in the sea anemone genus Epiactis.*

2:45 **HAVENHAND, J.N.**--Flinders University, Australia. *Influence of pre-metamorphic period on the evolution of larval type in marine invertebrates.*

3:00 **BREAK**

FRIDAY AFTERNOON I **LOUNGE, Building 7**

Contributed papers 25: MOLECULAR PHYLOGENETICS

CHAIR: MARK L. MCKNIGHT

1:30 **CHIPPINDALE, PAUL T.; DAVID M. HILLIS**--University of Texas at Austin. *Evolution and phylogeny of hemidactyliine plethodontid salamanders, and relationships of the Texas neotenic salamanders (Eurycea and Typhlomolge).*

1:45 **MCKNIGHT, MARK L.**--University of California at Davis. *An intron-like mtDNA segment in Ambystoma: systematic implications.*

2:00 **HELM-BYCHOWSKI, KATHLEEN; JOEL CRACRAFT**--University of Illinois. *Relationships of birds-of-paradise and bower birds: evidence from mitochondrial gene sequences.*

2:15 **GELTER, HANS P.; LISLE GIBBS; PETER T. BOAG**--Queen's University. *Mitochondrial D-loop evolution in Darwin's Finches.*

2:30 **HACKETT, SHANNON J.**--Louisiana State University. *Molecular biogeography of Central American birds.*

2:45 **GATESY, JOHN**--American Museum of Natural History; **GEORGE AMATO; MARK NORELL**--Yale University; **ROB DESALLE**--American Museum of Natural History. *Higher level relationships of crocodilians based on DNA sequence data.*

FRIDAY AFTERNOON I **LOUNGE, Building 8**

Contributed papers 26: MOLECULAR EVOLUTION

CHAIR: R.H. CROZIER

1:30 **AKASHI, HIROSHI**--University of Chicago. *Codon bias in Drosophila: natural selection and translational accuracy.*

1:45 **CAREW, ELIZABETH A.**--Yale University. *Evolution of the Adh locus in the Drosophila willistoni group: the loss of an intron and shift in codon usage.*

2:00 **CROZIER, R.H.**--La Trobe University. *The mitochondrial genome of the honeybee: apparent effects of extreme base composition on protein make-up.*

2:15 **HUANG, JINGFEL**--Kunming Institute of Zoology, China. *The relations of nucleic acid sequence fractals with structures and evolution.*

2:30 **GLEASON, JENNIFER**--Yale University. *Rates of DNA evolution in Drosophila depend on function and development stage of expression.*

2:45 **GUTTMAN, DAVID S.**--State University of New York at Stony Brook. *Detection of intergenic recombination in Escherichia coli.*

3:00 **BREAK**

FRIDAY AFTERNOON II **LOUNGE, Building 3**

Contributed papers 27: QUANTITATIVE AND ECOLOGICAL GENETICS
CHAIR: WILLIAM R. RICE

3:30 **EISSES, KAREL TH.**--University of Utrecht, The Netherlands. *Directed mutations in Drosophila? A case study with 2-methoxyethanol.*

3:45 **RICE, WILLIAM R.**--University of California at Santa Cruz. *Sexually antagonistic genes and sex chromosome evolution: an experimental study.*

4:00 **BARAHONA, ANA**--National University of Mexico (UNAM). *Genetics and evolution: evolutionary significance of mobile genetic elements.*

4:15 **ZENG, ZHAO-BANG**--North Carolina State University. *Correcting the bias of Wright's estimates of the number of genes affecting a quantitative character--a new method.*

4:30 **SIMONS, ANDREW**--McGill University. *The estimation of heritabilities: a comparison of field and laboratory estimates in the cricket Gryllus pennsylvanicus.*

4:45 **RITLAND, KERMIT**--University of Washington. *Estimating quantitative inheritance "in the field" with genetic markers: properties, problems and prospects.*

5:00 **CHEVERUD, JAMES M.**--Washington University School of Medicine. *Comparing patterns of phenotypic and genetic variation among tamarin species.*

5:15 **SCHEINER, SAMUEL M.; SERGEY GAVRILETS**--Northern Illinois University. *Phenotypic plasticity, heritability, and the response to selection.*

FRIDAY AFTERNOON II **LOUNGE, Building 4**

Contributed papers 28: LIFE HISTORY EVOLUTION;
POPULATION AND COMMUNITY ECOLOGY
CHAIR: MARK L. TAPER

3:30 **HEIDEMAN, PAUL D.**--University of Texas at Austin. *Seasonality in the tropics: assessment of seasonal patterns and endogenous reproductive rhythms of bats.*

3:45 **SCHLUTER, DOLPH; L. GUSTAFSSON**--University of British Columbia. *Maternal inheritance of condition and clutch size in the collared flycatcher.*

4:00 **CAREY, JAMES R.**--University of California at Davis. *The relationship between senescence and the force of mortality: an empirical stocktaking.*

4:15 **TATAR, MARC**--University of California at Davis. *Long term cost of reproduction without accelerated senescence in Callosobruchus maculatus.*

4:30 **DIAL, ROMAN**--Stanford University. *The role of physical transport in a rainforest canopy predator-prey community.*

4:45 **GARDES, MONIQUE**--University of California at Berkeley. *Mycorrhizal guild structure, the conflict between above and below ground views: molecular evidence.*

5:00 **TAPER, MARK L.**--University of New Mexico; **BRIAN DENNIS**--University of Idaho. *Detecting density dependence in natural populations using census data: statistical inference methods in stochastic environments.*

5:15 **KELT, DOUGLAS A.; MARK L. TAPER; PETER L. MERSERVE**--University of New Mexico. *Assessing the impact of competition on the assembly of communities, exemplified with the small mammal fauna of southern Chile.*

FRIDAY AFTERNOON II **LOUNGE, Building 7**

Contributed papers 29: MOLECULAR PHYLOGENETICS

CHAIR: THOMAS W. QUINN

3:30 **QUINN, THOMAS W.; DAVID P. MINDELL**--University of California at Berkeley. *Mitochondrial gene order adjacent to the control region in reptiles and birds.*

3:45 **ADKINS, RONALD M.; RODNEY L. HONEYCUTT**--Texas A&M University. *Molecular phylogeny of Prosimian primates.*

4:00 **DRAGOO, JERRY W.**--Texas A&M University. *Molecular phylogeny of the Mustelidae (Carnivora).*

4:15 **GEORGE, SARAH B.**--Natural History Museum of Los Angeles County. *Systematics of shrews based on cytochrome b sequences.*

4:30 **SMITH, MARGARET F.; JAMES L. PATTON**--University of California at Berkeley. *Diversification of South American muroid rodents: evidence from mtDNA sequence data for the akodontine tribe.*

4:45 **TUCKER, PRISCILLA K.; BARBARA L. LUNDRIGAN**--University of Michigan. *Tracing paternal ancestry in mice using the Y-linked sex determining locus, Sry.*

5:00 **NACHMAN, MICHAEL**--Cornell University. *Evolutionary history of Robertsonian chromosomal races of Mus domesticus inferred from mtDNA sequences.*

5:15 **HONEYCUTT, RODNEY L.; RONALD M. ADKINS; TODD R. DISOTELL**--Texas A&M University. *Evolution of mammalian mitochondrial genes: evidence for rate heterogeneity in the cytochrome C oxidase subunit II gene.*

FRIDAY AFTERNOON II **LOUNGE, Building 8**

Contributed papers 30: MOLECULAR EVOLUTION

CHAIR: FRED W. ALLENDORF

3:30 **ALLENDORF, FRED W.**--University of Montana. *Evolution of duplicated growth hormone genes in salmonid fishes.*

3:45 **POLLOCK, DAVID**--Stanford University. *Compensation and duplication in vertebrate LDH.*

4:00 **QUATTRO, JOSEPH**--Stanford University. *The cDNA sequence of teleost LDH-C: implications for the evolution of vertebrate LDH?*

4:15 **SAITOU, NARUYA**--National Institute of Genetics, Japan. *Evolutionary rate of insertions and deletions in noncoding nucleotide sequences of higher primates.*

4:30 **RITLAND, CAROL**--University of Washington. *Evolution of ribosomal DNA internal transcribed spacers (IT5) in the Mimulus guttatus species complex.*

4:45 **HILLIS, DAVID M.**--University of Texas at Austin. *Clues about concerted evolution in ribosomal DNA from Corbicula clams.*

FRIDAY EVENING **PAULEY BALLROOM, STUDENT UNION**

SSE PRESIDENTIAL ADDRESS 8:30 p.m.

DR. MARY JANE WEST-EBERHARD, Universidad de Costa Rica

"A Darwinian Cure for the Under-Development of Evolutionary Biology."

SATURDAY MORNING **THEATER**

SSE SYMPOSIUM: EVOLUTION IN THE FUNGI: PATTERNS AND PROCESSES

ORGANIZERS: **T. BRUNS**. University of California at Berkeley.

J. TAYLOR. University of Oregon.

RIPPING AND ITS EVOLUTIONARY IMPLICATIONS

8:00 **T. GORDON**. University of California at Berkeley. *Evolution of virulence in a soil borne fungal pathogen.*

8:30 **B. MCDONALD**. Texas A&M University. *Genetic structure of fungal pathogen populations: molecular evidence.*

9:00 **M. SMITH**. University of Toronto. *Genetic structure and stability of Armillaria clones.*

9:30 **M. BERBEE**. University of California at Berkeley. *Evolutionary relationships in the Ascomycota and Basidiomycota: molecular evidence and morphological trends.*

10:00 **BREAK**

10:30 **G. MAY**. University of Minnesota. *Evolution of mating type genes in Coprinus.*

11:00 **E. SELKER**. *RIPP and its evolutionary implications.*

11:30 **A. RAYNER**. University of Bath. *Origins and function of genetic and epigenetic instability in higher fungi.*

SATURDAY MORNING I **LOUNGE, Building 3**

Contributed papers 31: QUANTITATIVE AND ECOLOGICAL GENETICS OF HOST/PARASITE INTERACTIONS

CHAIR: DEANE BOWERS

8:00 **MITCHELL-OLDS, THOMAS**--University of Montana. *The cost of disease resistance in plants differs among fungal pathogens.*

8:15 **ALEXANDER, HELEN MILLER**--University of Kansas; **JANIS ANTONOVICS; PETER OUDEMANS**--Duke University. *Genotypic variation in host resistance and pathogen virulence: integration of inoculation and field transmission studies with Silene alba and Ustilago violacea.*

8:30 **MCLELLAN, TRACY**--University of Transkei, Southern Africa. *Natural selection for polymorphism in leaf mottling by powdery mildew.*

8:45 **SALONIEMI, IRMA**--University of Oregon. *Predator-prey coevolution with quantitative traits.*

9:00 **STEPHENS, ERIKA**--Harvard University. *Partial resistance developing in a cage population of Drosophila melanogaster to a virus.*

9:15 **GROSHOLZ, EDWIN**--Smithsonian Environmental Research Center. *The effects of host family and spatial heterogeneity on the distribution of trematodes in a directly developing clam.*

9:30 **BOWERS, DEANE; NANCY STAMP**--University of Colorado. *The effects of plant genotype, herbivory, and seasonal variation on growth and chemistry of Plantago lanceolata (Plantaginaceae).*

9:45 **CAMARA, MARK D.**--University of Colorado. *Ecological genetics of allelochemical tolerance and chemical defense in a lepidopteran herbivore: variation and covariation in Junonia coenia (Nymphalidae).*

10:00 **BREAK**

SATURDAY MORNING I **LOUNGE, Building 4**

Contributed papers 32: POPULATION AND COMMUNITY ECOLOGY; SEXUAL SELECTION

CHAIR: PATRICK FOLEY

8:00 **SHEPHERD, URSULA L.**--University of New Mexico. *Community structure along an elevational gradient in Deep Canyon, California: does morphological diversity change with species richness?*

8:15 **COLWELL, ROBERT K.; GEORGE C. HURTT**--University of Connecticut. *Two null models in biogeography: a spurious Rapoport's Rule and non-biological gradients in species diversity.*

8:30 **KOTANEN, PETER**--University of California at Berkeley. *Characteristics of damage controlling initial revegetation of meadows disturbed by feral pigs.*

8:45 **FOLEY, PATRICK**--California State University at Sacramento. *Predicting extinction times from environmental stochasticity and carrying capacity.*

9:00 **UYENOYAMA, MARCY K.**--Pennsylvania State University. *Mechanisms of parental discrimination.*

9:15 **FAIRBAIRN, DAPHNE J.; RICHARD F. PREZIOSI**--Concordia University. *Sexual selection and the evolution of allometry for sexual size dimorphisms: hypothesis and test.*

9:30 **GOMULKIEWICZ, RICHARD**--University of Kansas. *The evolution of age-dependent secondary-sexual traits and mating preferences.*

9:45 **HEDRICK, ANN V.**--University of Arizona. *The influence of predation risk on mate choice for male genotype in female field crickets (Gryllus integer).*

10:00 **BREAK**

SATURDAY MORNING I **LOUNGE, Building 7**

Contributed papers 33: MOLECULAR PHYLOGENETICS
CHAIR: SUSAN J. WELLER

8:00 **LESSA, ENRIQUE P.**--University of California at Berkeley; **JOSEPH A. COOK**--University of Alaska Museum. *Molecular phylogenies of South American tuco-tucos (genus Ctenomys).*

8:15 **STROBECK, CURTIS**--University of Alberta. *Phylogenetic relationship of Bison based on the DNA sequence of the D-loop region: are wood and plains bison separate subspecies.*

8:30 **FORD, MICHAEL J.**--Cornell University. *Molecular evolution of per, a putative "speciation gene" in three semi-species of Drosophila athabasca.*

8:45 **BIRSTEIN, VADIM**--American Museum of Natural History. *Phylogeny of the Plathelminthes and other lower invertebrates: molecular and cytogenetic approaches.*

9:00 **BROWER, ANDREW V.Z.**--Cornell University. *Phylogeny of Heliconius butterflies inferred from mitochondrial DNA sequences.*

9:15 **BROWN, JONATHAN**--Bucknell University; **R.G. HARRISON**--Cornell University; **O. PELLMYR**--University of Cincinnati; **J.N. THOMPSON**--Washington State University. *mtDNA phylogeny of Greya (Lepidoptera: Prodoxidae): a framework for the study of coevolutionary interactions.*

9:30 **WELLER, SUSAN J.; DOROTHY P. PASHLEY**--Louisiana State University. *Molecular phylogenetic studies in higher moths and butterflies: effects of exemplars.*

9:45 **DESPRES, LAURENCE**--University of British Columbia. *The role of man in the evolution of schistosomes (trematodes, platyhelminths). Molecular phylogeny using mt and nuclear ribosomal gene sequences.*

10:00 **BREAK**

SATURDAY MORNING I **LOUNGE, Building 8**

Contributed papers 34: MOLECULAR EVOLUTION
CHAIR: WALTER EANES

8:00 **CRAWFORD, DOUGLAS L.**--University of Chicago. *Inheritance of enzyme expression in the teleost fish Fundulus heteroclitus.*

8:15 **FU, YUN-XIN**--University of Texas at Houston. *Coalescent theory and test of neutrality of mutations using DNA polymorphism data.*

8:30 **WESLEY, CEDRIC SATISH**--Rockefeller University. *The cosmopolitan and latitudinally clinal natural inversion, in (3L)P of Drosophila melanogaster, carries a disrupted gene at the chromosomal breakpoints!*

8:45 **KING, LYNN MERTENS**--Harvard University. *Sequence variation at the esterase-5B locus in Drosophila pseudoobscura.*

9:00 **MCDONALD, JOHN H.**--University of Chicago. *DNA sequence variation at the glucose phosphate isomerase locus in Drosophila.*

9:15 **LABATE, JOANNE; WALTER F. EANES**--State University of New York at Stony Brook. *Nucleotide variation at the runt locus in Drosophila melanogaster.*

9:30 **EANES, WALTER**--State University of New York at Stony Brook. *Adaptive amino acid substitution at the G6PD locus in the Drosophila melanogaster-simulans lineages.*

9:45 **KING, LYNN MERTENS**--Harvard University. *Sequence evolution at a hypervariable plastid gene: rpoC2 in grasses.*

10:00 **BREAK**

SATURDAY MORNING II **LOUNGE, Building 3**

Contributed papers 35: ECOLOGICAL GENETICS OF
PLANT/HERBIVORE INTERACTIONS
CHAIR: ARTHUR E. WEIS

10:30 **FOX, CHARLES W.**--University of California at Berkeley. *A quantitative genetic analysis of oviposition preference and performance on two hosts in Callosobruchus maculatus.*

10:45 **WEIS, ARTHUR E.**--University of California at Irvine. *Does Eurosta's gall size evolve in response to selection?*

11:00 **STRAUSS, SHARON Y.**--University of Illinois at Urbana-Champaign. *The significance of outcrossing in an intimate plant/herbivore relationship.*

11:15 **DUDLEY, SUSAN A.; ELLEN L. SIMMS**--Brown University. *A genetic analysis of the physiological basis of compensation for apical damage in Ipomoea purpurea.*

11:30 **ROSENTHAL, JOSHUA P.**--University of California at Berkeley. *Comparative susceptibility of maizes and their wild relatives to insect herbivores: a conceptual model and experimental evidence.*

11:45 **STRONG, DONALD R.**--Bodega Marine Lab, University of California. *Heritability of willow resistance to gallmidge decreases as outbreak is suppressed by parasitoids and predators.*

SATURDAY MORNING II **LOUNGE, Building 4**

Contributed papers 36: SEXUAL SELECTION
CHAIR: DANIEL D. WIEGMANN

10:30 **WIEGMANN, DANIEL D.**--University of Wisconsin at Madison. *Sexual selection and fitness variation in a population of smallmouth bass, Micropterus dolomieui.*

10:45 **CARROLL, SCOTT**--University of California at Davis. *Sexual selection for divergent behavioral reaction norms in the soapberry bug.*

11:00 **BOAKE, CHRISTINE R.**--University of Tennessee. *Inheritance of courtship components in the Hawaiian picture-winged fly Drosophila silvestris.*

11:15 **KOEPFER, H. ROBERTA**--Queens College of City University of New York. *Developmental isolation and subsequent adult behavior in Drosophila paulistorum. I. Effects of pre-adult seclusion on mate choice.*

11:30 **KIM, YONG-KYU**--Queens College of City University of New York. *Developmental isolation and subsequent adult behavior in Drosophila paulistorum. II. Effects of alternative rearing methods on mate choice.*

11:45 **PITNICK, SCOTT; THERESE MARKOW**--Arizona State University. *Sexual selection, paternal investment, and the evolution of sex-specific maturation patterns in Drosophila.*

SATURDAY MORNING II **LOUNGE, Building 7**

Contributed papers 37: MOLECULAR PHYLOGENETICS
CHAIR: GUILLERMO ORTI

10:30 **DEGNAN, BERNARD**--University of California at Santa Barbara. *Phylogenetic comparison of the rRNA internal transcribed spacers of ascidians to determine evolutionarily conserved sequences and secondary structures.*

10:45 **BERNARDI, GIACOMO**--Stanford University. *Molecular phylogeny of the prickly shark Echinorhinus cookei, based on a nuclear (18S rRNA) and a mitochondrial (cytochrome b) gene.*

11:00 **ORTI, GUILLERMO**--State University of New York at Stony Brook. *Molecular phylogeny of the sticklebacks and hypotheses of character evolution.*

11:15 **PATARNELLO, TOMASO; L. BARGELLONI; F. ARGENTON; S. ZERONIAN; L. COLOMBO**--University of Padova, Italy. *Mitochondrial DNA variation in salmonids of the genus Salmis in Italy.*

11:30 **PHILLIPS, RUTH B.**--University of Wisconsin at Milwaukee. *Phylogeny of salmonid fishes inferred from ribosomal DNA sequences.*

11:45 **BLOCK, BARBARA A.; JOHN R. FINNERTY; ALEX STEWART; JESSICA KIDD**--University of Chicago. *Evolution of endothermy in fish: mapping physiological traits on a molecular phylogeny.*

SATURDAY MORNING II **LOUNGE, Building 8**

Contributed papers 38: MOLECULAR EVOLUTION
CHAIR: ROBERT DORIT

10:30 **PALUMBI, STEPHEN R.**--University of Hawaii. *Universal PCR primers for nuclear introns and their use in population biology.*

10:45 **SULLENDER, BARRY**--University of Oregon. *Characterization and population distribution of a Daphnia rDNA insert.*

11:00 **DORIT, ROBERT**--Yale University. *DNA sequence variation in human sex chromosome loci.*

11:15 **RAND, DAVID M.**--Brown University. *RIPPING and RAPPING in mtDNA and the fine structure of cricket populations in southern New England.*

11:30 **HOFFMAN, SUSAN M.G.**--Lawrence Livermore National laboratory. *The molecular mechanism underlying the "rare allele phenomenon" in a subspecific hybrid zone of a California mouse.*

SATURDAY AFTERNOON **THEATER**

SSE SYMPOSIUM: COALESCENT THEORY AND ITS APPLICATIONS TO POPULATION GENETICS AND PHYLOGENETICS
ORGANIZERS: **K. CRANDALL AND A. TEMPLETON**

1:30 **J. FELSENSTEIN**. University of Washington. *Population samples, coalescents, and likelihoods.*

2:15 **K. CRANDALL**. Washington University at St. Louis. *Implications of coalescent theory for intraspecific phylogeny reconstruction.*

3:00 **BREAK**

3:30 **R. HUDSON**. University of California at Irvine. *Gene genealogies with selection.*

4:15 **M. SLATKIN**. University of California at Berkeley. *Coalescent processes in subdivided populations.*

SATURDAY AFTERNOON I **LOUNGE, Building 3**

Contributed papers 39: ECOLOGICAL GENETICS: PLANT/HERBIVORE INTERACTIONS; MAINTENANCE OF GENETIC VARIATION
CHAIR: LOUISA A. STARK

1:30 **THOMPSON, DANIEL B.**--University of Nevada at Las Vegas. *The evolution of diet-induced phenotypic plasticity in two species of grasshoppers.*

1:45 **SAGERS, CYNTHIA L.**--University of Utah. *Phenotypic plasticity of defenses and herbivory in a neotropical shrub.*

2:00 **MITTON, JEFFREY B.; PATRICK A. CARTER**--University of Colorado. *Metabolic rate decreases with allozyme heterozygosity in sow bugs.*

2:15 **STARK, LOUISA A.**--University of Colorado. *Associations between heterozygosity level at two loci and fitness in Brassica rapa.*

2:30 **JONES, KRISTINA N.**--University of California at Davis. *Fertility selection and non-random mating with respect to a discrete floral polymorphism in Clarkia gracilis (Onagraceae).*

2:45 **RAUSHER, MARK D.**--Duke University. *Maintenance of variation for a floral pigment polymorphism in morning glories: selection via female function.*

3:00 **BREAK**

SATURDAY AFTERNOON I **LOUNGE, Building 4**

Contributed papers 40: SEXUAL SELECTION
CHAIR: STEPHEN M. SHUSTER

1:30 **SNOOK, RHONDA R.**--Arizona State University. *Functional significance of sperm polymorphism in Drosophila pseudoobscura.*

1:45 **SHUSTER, STEPHEN M.**--Northern Arizona University. *Allozyme and morphological polymorphism in marine isopods: the effects of selection on linked loci.*

2:00 **MORRIS, MOLLY R.**--University of Texas at Austin. *The evolution of large body size in a pygmy swordtail (Xiphophorus pygmaeus); an opportunity to examine the evolution of female preference.*

2:15 **KNAPP, ROLAND A.**--University of California at Santa Barbara. *Male parental quality, energy reserves, and the evolution of courtship in the bicolor damselfish, Stegastes partitus.*

2:30 **DA SILVA, JACK**--McGill University. *A trade-off between mating success and viability: a sexual selection experiment with Chlamydomonas.*

2:45 **SULLIVAN, BRIAN K.**--Arizona State University West. *Selection on male calling behavior in the grey treefrog.*

3:00 **BREAK**

SATURDAY AFTERNOON I **LOUNGE, Building 7**

Contributed papers 41: MOLECULAR PHYLOGENETICS; PHYLOGENY AND CHARACTER EVOLUTION
CHAIR: TOD W. REEDER

1:30 **STOCK, DAVID W.**--Stanford University; **GREGORY S. WHITT**--University of Illinois. *A phylogenetic analysis of the major lineages of ray-finned fishes using 18S ribosomal RNA sequences.*

1:45 **MEYER, AXEL**--State University of New York at Stony Brook. *Origin of the Lake Victoria cichlid fish species flock inferred from mt DNA sequences.*

2:00 **LINDBERG, DAVID R.**--University of California at Berkeley. *Evolution of the gastropod limpet Lottia gigantea: evidence from molecular, morphological, and stratigraphic data sets.*

2:15 **HUGOT, JEAN-PIERRE**--Museum National D'Histoire Naturelle, France. *The rodents and their pinworms: a case of coevolution.*

2:30 **PATERSON, ADRIAN M.; GRAHAM P. WALIS; RUSSELL D. GRAY**--University of Otago. *Seabird phylogeny: congruence of behaviourally, ecologically, and electrophoretically derived trees.*

2:45 **REEDER, TOD W.; JOHN J. WIENS**--University of Texas at Austin. *The combining of diverse data sets in phylogenetic analysis: an empirical example from phrynosomatid lizards.*

3:00 **BREAK**

SATURDAY AFTERNOON I **LOUNGE, Building 8**

Contributed papers 42: PLANTS: REPRODUCTIVE BIOLOGY
CHAIR: MARTHA R. WEISS

1:30 **WILSON, PAUL**--State University of New York at Stony Brook. *What explains variance in pollination success? ( ) floral morphology, ( ) bee species, ( ) cool interaction terms, ( ) none of the above.*

1:45 **WEISS, MARTHA R.**--University of California at Berkeley. *The evolution of floral color change.*

2:00 **CONNER, JEFF; PETER JENNETTEN**--University of Illinois. *Insect pollinators and the evolution of floral morphology.*

2:15 **MCKONE, MARK J.**--Carleton College; **DAVE KELLY** University of Canterbury. *Mast flowering and attack by a specialist seed predator of Chionochloa (Poareae) in New Zealand.*

2:30 **BRUNET, JOHANNE**--University of Washington. *Resource availability and morphological specialization of flowers in Aquilegia caerulea (Ranunculaceae).*

2:45 **NEWSTROM, LINDA E.**--University of California at Berkeley. *A new classification for plant phenology: flowering patterns in tropical rain forest trees including figs.*

3:00 **BREAK**

SATURDAY AFTERNOON II **LOUNGE, Building 3**

Contributed papers 43: ECOLOGICAL GENETICS;
MAINTENANCE OF GENETIC VARIATION
CHAIR: PEDRO J.N. SILVA

3:30 **ROFF, DEREK; PATRICK SHANNON**--McGill University. *Thermal preference in sand cricket nymphs: a novel mechanism for the maintenance of genetic variation.*

3:45 **SILVA, PEDRO J.N.**--State University of New York at Stony Brook. *Is a jack of all sugars a master of none?*

4:00 **VAN TIENDEREN, PETER H.**--Netherlands Institute of Ecology. *Restricted gene flow and the evolution of generalists and specialists in patchy habitats.*

4:15 **FRY, JAMES D.**--North Carolina State University. *The "general vigor" problem: can antagonistic pleiotropy be detected when genetic covariances are positive?*

4:30 **SHAW, RUTH G.; GERRIT A.J. PLATENKAMP**--University of California at Riverside. *Genetic constraints on competitive performance in Nemophila menziesii (Hydrophyllaceae).*

4:45 **TRAVISANO, MICHAEL**--Michigan State University. *Heterogeneity among Escherichia coli populations in adaptive responses to a uniform environment.*

5:00 **TURNER, PAUL E.**--Michigan State University. *Paradoxical fitness effects due to recombination in otherwise asexual populations of E. coli.*

5:15 **HOLLOCHER, HOPE**--University of Chicago; **ALAN R. TEMPLETON**--Washington University. *The molecular and ecological genetics of abnormal abdomen in Drosophila mercatorum: life history effects of the syndrome in males and females in a natural population in Hawaii.*

5:30 **BLOWS, MARK**--La Trobe University. *Central/marginal patterns in quantitative genetic variation for stress resistance in Drosophila.*

SATURDAY AFTERNOON II **LOUNGE, Building 4**

Contributed papers 44: SEXUAL SELECTION; SEX RATIOS AND ALLOCATION; EVOLUTION OF SEX

CHAIR: KEVIN M. HEINZ

3:30 **DERRICKSON, KIM C.**--National Zoological Park. *Do female northern mocking birds prefer versatile singing?: conflicting preferences of estradiol treated and untreated females.*

3:45 **SMITH, L. DAVID**--University of Alberta. *The importance of male body size to mate acquisition and intrasexual competition in blue crabs, Callinectes sapidus.*

4:00 **KRALL, PETER**--Konrad-Lorenz-Institut f. Evolutions u. kognitionsforschung. *A population-genetical model for stabilization of phenotypic polymorphism by sexual selection.*

4:15 **LALAND, KEVIN N.**--University of California at Berkeley. *The evolutionary consequences of sexual imprinting.*

4:30 **HELMS, KEN R.**--Arizona State University. *Sex ratio specialization by colonies of the ant Pheidole desertorum.*

4:45 **HEINZ, KEVIN M.**--University of California at Davis. *Costs and benefits of host size dependent sex allocation behavior--the potential role of stabilizing selection.*

SATURDAY AFTERNOON II **LOUNGE, Building 7**

Contributed papers 45: PHYLOGENY AND CHARACTER EVOLUTION

CHAIR: MARY C. MCKITRICK

3:30 **MCKITRICK, MARY C.**--University of Michigan. *Trends in the evolution of hindlimb musculature in aerially-foraging birds.*

3:45 **GRIFFITHS, CAROLE S.**--American Museum of Natural History. *The phylogeny of the diurnal birds of prey (order Falconiformes) based on syringeal morphology.*

4:00 **RICHMAN, ADAM D.**--University of Oregon. *Evolution of ecological segregation in the old world leaf warblers: roles of history and adaptation.*

4:15 **FUTUYMA, DOUGLAS J.**--State University of New York at Stony Brook. *Genetic constraint and the phylogeny of host affiliation in leaf beetles.*

4:30 **HASTINGS, PHILIP A.**--University of Arizona. *Morphological and behavioral paedomorphosis in females of a sexually dimorphic blennioid fish.*

4:45 **DICKINSON, JOE**--University of Utah. *Conservation of molecular prepatterns during the evolution of cuticle morphology in Drosophila larvae.*

5:00 **WAGNER, G.P.; R. LAINE; Y. LO**--Yale University. *Chitin-expression in vertebrates and its evolutionary implications.*

SATURDAY AFTERNOON II **LOUNGE, Building 8**

Contributed papers 46: PLANTS: REPRODUCTIVE BIOLOGY; POPULATION STRUCTURE

CHAIR: JOHN NASON

3:30 **LLOYD, DAVID G.**--University of Canterbury, New Zealand. *Evolution of the pollination mechanisms in the ancestors of the angiosperms.*

3:45 **ROY, BITTY**--University of California at Davis. *Floral mimicry by a rust fungus?*

4:00 **MITCHELL, RANDALL J.**--University of New Mexico. *Effects of floral traits, pollinator visitation and plant size on fruit production in Ipomopsis aggregata.*

4:15 **OTTO, SARAH**--Stanford University. *The evolution of ploidy levels; an examination of the masking hypothesis.*

4:30 **HUSBAND, BRIAN C.; SPENCER C.H. BARRETT**--University of Toronto. *Effective population size and genetic drift in tristylous Eichhornia paniculata (Pontederiaceae).*

4:45 **KRAUSS, SIEGFRIED**--University of Wollongong, Australia. *Gene flow in a Geebung: direct and indirect estimation of pollen flow within populations and between parapatric subspecies in the complex species Persoonia mollis (Proteaceae).*

5:00 **BERG, ED**--University of Georgia. *Fine-scale genetic structure of a turkey oak forest.*

5:15 **NASON, JOHN**--University of Georgia. *"Maternity analysis" of dispersed seedlings in Alseis blackiana, a tropical canopy tree.*

SATURDAY EVENING **THEATER**

SSB PRESIDENTIAL ADDRESS 7:30-8:30 p.m.
DR. WILLIAM FINK, University of Michigan
"The Changing Role of Systematics in Biology."

SATURDAY 8:30-11:00 PM **Building 14, ROOMS 203-204**

The poster sessions will be accompanied by complimentary liquid refreshment derived from grain.

POSTER SESSION II

50. **MATSUDA, HIROYUKI**--University of Minnesota; **MICHIO HORI**--Wakayama Medical College, Japan; **PETER A. ABRAMS**--University of Minnesota. *Effects of predator-specific defence on predator persistence and community complexity.*
51. **PASCUAL, MARTA; LUIS SERRA**--Universitat de Barcelona, Spain. *Ecological relationships between the colonizing species Drosophila subobscura and other Drosophila species of California.*
52. **MAHER, CHRISTINE R.**--University of California at Davis. *Are female pronghorn more mobile during the breeding season?*
53. **GOFF, PETER**--University of Vermont. *Kin cannibalism: the evolution of an antisocial behavior in Plagiodera versicolora.*
54. **SMOUSE, PETER E.; THOMAS R., MEAGHER**--Rutgers University. *Likelihood parentage analysis in Chamaelirium luteum: differential reproductive success.*
55. **HELENURM, KAIUS**--San Diego State University. *Genetic load, maternal effect and mating system in Lupinus texensis.*
56. **ECKHART, VINCENT M.; JON SEGER**--University of Utah. *Evolution of sexual systems and sex allocation in annual plants when growth and reproduction overlap.*
57. **ST. MARY, COLETTE M.**--University of California at Santa Barbara. *A dynamic optimization approach to sex allocation in two congeneric species of gobiid fishes.*
58. **HUDSON, RICK E.**--University of Arizona. *The life history of sex and dormancy in the sporulating bacteria Bacillus subtilis.*
59. **KOHN, ALAN J.**--University of Washington. *Developmental patterns, dispersal and geographic distribution: the marine gastropod Conus.*
60. **NÚÑEZ-FARFAN, JUAN**--Harvard University; **RODOLFO DIRZO**--Centro de Ecología, UNAM, Mexico. *Evolutionary ecology of Datura stramonium L. in central Mexico: lack of natural selection of resistance to herbivorous insects.*
61. **EBBERT, MERCEDES A.**--Ohio State University. *Improved overwintering ability in leafhopper vectors of corn stunt spiroplasma.*

62. **WOLFE, LORNE; SUSAN MAZER**--University of California at Santa Barbara. *Density-dependent expression of genetic variation in reproductive traits in an annual plant, Raphanus sativus.*
63. **MARSHALL, SAMUEL D.**--University of Tennessee. *Reproductive output in spiders: evidence for a scaling constraint on productivity.*
64. **WRAY, GREGORY**--University of Washington. *Decoupled evolution of life history phases in echinoderms.*
65. **WATT, WARD**--Stanford University. *PGI allozymes affect female fecundity in Colias butterflies--predictably.*
66. **FOREMAN, DAPHNE; JERRY MITTON**--University of California at Berkeley. *In vitro functional differences of 6PGD enzyme genotypes reflect in vivo rates of glucose oxidation in perennial ryegrass.*
67. **WILLIAMS, KAREN D.; MARLA B. SOKOLOWSKI**--York University. *Reproductive arrest in Drosophila melanogaster females: variation along a latitudinal cline.*
68. **BROOKS, LISA D.**--Brown University. *Correlated variation for recombination in Drosophila melanogaster.*
69. **MABEE, PAULA M.**--San Diego State University. *An experimental study of the evolution of the neuromast/dermal bone relationship in fishes.*
70. **EXCOFFIER, L.**--University of Geneva; **P.E. SMOUSE**--Rutgers University; **J.M. QUATTRO**--Stanford University. *Population genetic structure inferred from molecular data.*
71. **LEE, BANG-NING; RONALD S. BURTON**--University of Houston. *Genetic population structure of the copepod Tigriopus californicus inferred from DNA sequence comparisons.*
72. **MESTRES, FRANCESC**--Universitat de Barcelona, Spain. *Association between chromosomal inversions and lethal genes in American populations of Drosophila subobscura.*
73. **STOCKWELL, CRAIG A.; GUY P. HOELZER**--University of Nevada at Reno. *A RAPD assessment of genetic distance in recently isolated populations of mosquitofish (Gambusia affinis).*
74. **PARK, LINDA; MARY ANNE BRAINARD**--National Marine Fisheries Service. *Lack of variation in the mitochondrial D-loop of chum salmon, Oncorhynchus keta.*
75. **SEGAL, JEFF A.; DOUGLAS L. CRAWFORD**--University of Chicago. *Variation between populations in acclimation response in the teleost fish Fundulus heteroclitus.*
76. **BICKEL, ANN; D. CARL FREEMAN; E. DURANT MCARTHUR**--Wayne State University. *Hypothesis testing: germination trials for hybrid zone subspecies Artemisia tridentata ssp. Tridentata and A. T. vaseyana (Ryc6.) beetle.*
77. **GOULIELMOS, GEORGE N.**--Institute of Molecular Biology and Biotechnology, Greece. *The geographical mapping of a polymorphism for a "speciation" gene in the sibling species D. arizonae and D. mojavensis.*

78. **BALDO, ANGELA M.**--University of Connecticut. *Molecular evolution and potential phylogenetic applications of Drosophila histone genes.*
79. **CLAYTON, JIM**--Canada Department of Fisheries and Oceans. *Phylogeny and evolution of the whales: a serum albumin immunological, and biochemical perspective.*
80. **FITCH, DAVID H.A.; SCOTT W. EMMONS**--Albert Einstein College of Medicine. *Evolution of form in the rhabditid male tail.*
81. **GELLER, JONATHAN B.**--Stanford University. *Intrapopulation variation of mitochondrial ribosomal DNA in Mytilus trossulus.*
82. **GLEASON, JENNIFER**--Yale University. *Molecular evolution of the Drosophila period locus, a gene implicated in cicadian and courtship rhythms.*
83. **LEE, STEVEN B.**--University of Northern Colorado. *Small subunit ribosomal DNA sequences of Leptomitus lacteus, Sapromyces elongatus, Aqualinderella fermentans, and Rhipidium sp. and their evolutionary implications for the Oomycete order Leptomitales.*
84. **LIU, HONG**--Simon Fraser University. *Evolution of the mitochondrial cytochrome oxidase II gene among ten orders of insects.*
85. **SARVER, SHANE K.**--Louisiana State University. *Apparent overdominance for enzyme specific activity in two marine bivalves.*
86. **STRASSMANN, JOAN; COLIN HUGHES; CARLOS SOLIS; DAVE QUELLER**--Rice University. *Highly variable microsatellite loci in social wasps.*
87. **WAKELEY, JOHN**--University of California at Berkeley. *Variation in substitution rate among sites in molecular sequences: the control region of human mitochondrial DNA.*
88. **BECKENBACH, ANDY**--Simon Fraser University; **BILL HEED**--University of Arizona. *Amphixeric species pairs in cactophilic Drosophila: search for a molecular clock using mitochondrial CO II.*
89. **KRUKONIS, GREG**--University of Arizona. *Phylogeny reconstruction from molecular data: effects of using the complete genome versus a subset--an example with viroids and virusoids.*
90. **WEI, YUEWANG**--Simon Fraser University. *Gene organization and evolution of mitochondrial genomes from two invertebrates: Pogonophora and Chaetognatha.*
91. **DYRESON, ERIC G.; HENAR ALONSO-PIMENTEL; WILLIAM B. HEED**--University of Arizona. *Morphometric analysis of wing shape in cactophilic Drosophila: a case of ecological convergence?*
92. **STEPPAN, SCOTT**--University of Chicago. *Phylogenetic analysis of the South American rodent tribe Phyllotini (Cricetidae): the leaf-earred mice of the Andes.*

94. **WEST, LANI**--Stanford University. *The phylogenetic relationship of hexactinellid sponges with regard to members of the kingdom Protista using complete 18S ribosomal RNA gene sequences.*

95. **SHIELDS, GERALD F.; ANDREA M. SCHMIECHEN, MIKHAIL L. VOEVODA; KRISTEN HECKER; JUDY K. REED**--University of Alaska at Fairbanks; **RYK H. WARD; ALAN REDD**--University of Utah. *Mitochondrial DNA phylogenies of Circumarctic natives.*

96. **ALVAREZ-BUYLLA, ELENA; ADRIANA GARAY**--Centro de Ecologia, UNAM. *Population genetic structure of Cecropia obtusifolia, a pioneer tropical tree species.*

SUNDAY MORNING **THEATER**

SSE SYMPOSIUM: MOLECULAR EVOLUTION OF DEVELOPMENT AND GENE EXPRESSION
ORGANIZER: D. CAVENER

8:30 **N. PATEL**. Carnegie Institute of Washington. *Evolution of segmentation genes in Drosophila.*

9:15 **M. SCOTT**. Stanford University. *Regulation of development by homeotic genes.*

10:00 **BREAK**

10:30 **J. WHITING**. MRC Cambridge. *Evolutionary aspects of murine hox gene regulation.*

11:15 **D. CAVENER**. Vanderbilt University. *Evolution of tissue-specific regulation of gene expression.*

SUNDAY MORNING I **LOUNGE, Building 3**

Contributed papers 47: QUANTITATIVE AND ECOLOGICAL GENETICS; GROWTH, DEVELOPMENT AND EVOLUTION
CHAIR: ROBERT BROWNE

8:00 **BROWNE, ROBERT**--Wake Forest University. *Is parthenogenesis "ancient" in Artemia (brine shrimp)?*

8:15 **SPITZE, KEN**--University of Miami. *Life-history covariance and population differentiation in Daphnia.*

8:30 **FOOTE, DAVID**--Hawaii National Park. *Rates of morphological evolution in the Mediterranean fruit fly in Hawaii.*

8:45 **CLANCY, DAVID JOHN**--La Trobe University. *Cytoplasmic incompatibility in insects: current situation and prospects for pest control.*

9:00 **CHAZDON, ROBIN L.; ADRIENNE B. NICOTRA**--University of Connecticut. *Genetic variation influences growth but not photosynthetic capacity in rain forest shrubs grown under two light levels.*

9:15 **SMITH, JULIA I.**--University of California at Berkeley. *Environmental influence on growth and development in the song sparrow (Melospiza melodia).*

9:30 **BURNS, KEVIN J.**--University of California at Berkeley. *Geographic variation in the ontogeny of the fox sparrow (Passerella iliaca).*

9:45 **LEVINTON, JEFFREY S.**--State University of New York at Stony Brook. *Fiddler crab claws: interspecific variation, morphometric scaling, and biomechanical function of a sexually selected trait.*

10:00 **BREAK**

SUNDAY MORNING I **LOUNGE, Building 4**

Contributed papers 48: EVOLUTION OF SEX
CHAIR: STEPHEN C. WEEKS

8:00 **WEEKS, STEPHEN C.**--University of Georgia. *The genetic mechanism of sex determination in an androdioecious shrimp, Eulimnadia texana.*

8:15 **ORZACK, STEVEN**--University of Chicago. *Quantitative genetics of sex ratio traits in a parasitic wasp.*

8:30 **HUDSON, RICK E.**--University of Arizona. *The life history of sex and dormancy in the sporulation bacteria Bacillus subtilis.*

8:45 **PERROT, VERONIQUE**--University of Basel; **SOPHIE RICHERD; MYRIAM VALERO**--University of Lille; **ALEX KONDRASHOV**--University of Wisconsin at Madison. *Evolution of haploidy and diploidy: individual selection models.*

9:00 **NORMARK, BENJAMIN**--Cornell University. *A molecular-phylogenetic study of parthenogenesis in South American weevils (tribe Naupactini).*

9:15 **LIVELY, CURT;**--Indiana University. *Parthenogenesis in a fresh water snail: reproductive assurance versus parasitic release.*

9:30 **CHANDLER, MARK; GRAHAM BELL**--McGill University. *A comparative test of the red queen theory of recombination and parasites.*

9:45 **CANCELLED**

10:00 **BREAK**

SUNDAY MORNING I **LOUNGE, Building 7**

Contributed papers 49: PHYLOGENY AND CHARACTER EVOLUTION; PALEOBIOLOGY AND MACROEVOLUTION
CHAIR: AN-MING TAN

8:00 **BORNBUSCH, ALAN H.; MELINDA LEE**--Smith College. *Structural evolution of anchovy (Teleostei: Engrauloidea) gill rakers and its relationship to feeding behaviors.*

8:15 **REED, KENT M.**--University of Rochester. *Evolutionary cytogenetics of the paternal-sex-ratio chromosome of Nasonia vitripennis.*

8:30 **WASSERMAN, MARVIN**--Queens College; **ALFREDO RUIZ**--Universidad Autonoma, Barcelona. *Multiple pathways in the cytological evolution of Drosophila.*

8:45 **TAN, AN-MING**--University of California at Berkeley. *Evolutionary cytogenetics of the salamander genus Taricha, Salamandridae.*

9:00 **BRITTON-DAVIDIAN, JANICE**--Universite Montepellier II, France. *Chromosomal phylogeny in the African rodent genus Mastomys.*

9:15 **BHARATHAN, GEETA; DAVID GALBRAITH**--Smithsonian Institution. *Variation and evolution of genome size in the monocotyledons and other palaeoherbs.*

9:30 **MASTERSON, JANE**--University of Chicago. *The geological history of polyploidy in woody angiosperms.*

9:45 **ARCHIBALD, J. DAVID**--San Diego State University. *Assessing modes of speciation from the fossil record using cladistics and biostratigraphy.*

10:00 **BREAK**

SUNDAY MORNING I **LOUNGE, Building 8**

Contributed papers 50: PLANTS: POPULATION STRUCTURE; DEMOGRAPHY; PHENOTYPIC PLASTICITY

CHAIR: BROOK G. MILLIGAN

8:00 **HEYWOOD, JOHN S.**--Southwest Missouri State University. *Isolation by distance in plant populations of the Tallgrass prairie.*

8:15 **MILLIGAN, BROOK G.**--University of Texas at Austin. *Quantification of genetic differentiation using RAPD markers: an example from West Texas populations of Aquilegia (Ranunculaceae).*

8:30 **WILLIAMS, RICK**--Rocky Mountain Biological Laboratory. *Variation in genetic structure and the mating system among populations of Cryptotaenia canadensis (Umbelliferae).*

8:45 **TONSOR, STEPHEN J.**--Kellogg Biological Station. *Does mating system affect phenotypic variance and heritability in Plantago lanceolata?*

9:00 **NAUTA, MAARTEN J.**--Agricultural University, Wageningen. *A population genetic model on the evolution of vegetative incompatibility in filamentous ascomycetes.*

9:15 **LANDA, KEITH**--Indiana University. *Demographic and physiological responses to root pruning in a clonal perennial herb.*

9:30 **BAKER, HERBERT G.**--University of California at Berkeley. *Feral cabbages--dedomestication of Brassica oleracea.*

9:45 **GALLOWAY, LAURA F.**--University of California at Davis. *Is plasticity adaptive? Responses to local environmental heterogeneity in the common monkey flower.*

10:00 **BREAK**

SUNDAY MORNING II **LOUNGE, Building 3**

Contributed papers 51: GROWTH, DEVELOPMENT AND EVOLUTION

CHAIR: SHARYN B. MARKS

10:30 **ZELDITCH, MIRIAM L.**--University of Michigan. *Ontogeny of skull shape variation in cotton rats: a geometric approach.*

10:45 **ATCHLEY, WILLIAM R.**--North Carolina State University. *Transgenic epigenetic effects on skeletal development in the mouse.*

11:00 **MARKS, SHARYN B.**--University of California at Berkeley; **NEIL SHUBIN**--University of Pennsylvania; **DAVID B. WAKE**--University of California at Berkeley. *Limb development in the Plethodontid salamander genus Desmognathus: testing hypotheses of function, ancestry and developmental constraint.*

11:15 **QUEATHEM, ELIZABETH; VINCE ECKHART**--University of Utah. *The mechanics of grasshopper jumping performance and the evolution of life history traits.*

11:30 **ZERA, ANTHONY J.**--University of Nebraska at Lincoln. *Different endocrine mechanisms regulate morph induction and morph-specific reproduction in the wing-dimorphic cricket, Gryllus rubens.*

11:45 **GILCHRIST, GEORGE W.**--University of Washington. *Effect of parental and developmental environments on locomotory performance curves.*

SUNDAY MORNING II **LOUNGE, Building 7**

Contributed papers 52: PALEOBIOLOGY AND MACROEVOLUTION

CHAIR: BRIAN A. MAURER

10:30 **BRIGGS, JOHN C.**-- University of Georgia. *Why so few species in the sea?*

10:45 **GILLESPIE, ROSEMARY**--University of Maryland. *In what direction does a taxon cycle? Range restrictions as an indicator of either derived or ancestral affinity.*

11:00 **LIEBERMAN, BRUCE S.**--American Museum of Natural History; **WARREN D. ALLMON**--University of South Florida; **NILES ELDREDGE**--American Museum of Natural History. *Cell-lineage drive, a developmental mechanism controlling macroevolutionary patterns in the turritellid gastropods.*

11:15 **MAURER, BRIAN A.; DANIELLE D. MONTAGUE**--Brigham Young University. *A darwinian model for the evolution of taxonomic diversity, I: theoretical development.*

11:30 **MONTAGUE, DANIELLE D.; BRIAN A. MAURER;**--Brigham Young University. *A darwinian model for the evolution of taxonomic diversity, II: empirical tests.*

11:45 **ROTHSCHILD, LYNN J.; ROCCO MANCINELLI**--NASA/AMES Research Center. *Photosynthesis and nitrogen fixation in ancient stromatolites as deduced from modern microbial mats.*

SUNDAY MORNING II **LOUNGE, Building 8**

Contributed papers 53: PLANTS: PHENOTYPIC PLASTICITY
CHAIR: CARL D. SCHLICHTING

10:30 **ACKERLY, DAVID D.; FAKHRI A. BAZZAZ**--Harvard University. *Testing the adaptive value of phenotypic plasticity: plant growth analysis following a sudden switch in light environment.*

10:45 **SCHMITT, JOHANNA**--Brown University. *Reaction norms of morphological and life history traits to light availability in Impatiens capensis.*

11:00 **SCHLICHTING, CARL D.; MASSIMO PIGLIUCCI**--University of Connecticut. *Phenotypic plasticity and environment-dependent resemblance among Phlox populations.*

11:15 **MILLER, RICHARD E.**--New Mexico State University. *Variation in reaction norms among populations of Bouteloua rigidiseta (Texas grama).*

11:30 **EVANS, ANN S.**--University of New Mexico. *Morphological asymmetry as an indicator of stress in two populations of the mustard Brassica campestris.*

11:45 **GARBUTT, KEITH**--West Virginia University. *Temporal environmental heterogeneity and fitness in Abutilon theophrasti.*

12:00 **MEAGHER, THOMAS R.**--Rutgers University. *Genetic interactions between male and female reproductive performance in Silene latifolia.*

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.

LOCATION IN PROGRAM OF PRESENTERS OF CONTRIBUTED TALKS

Allan C. Wilson Memorial Symposium

Wednesday, June 17, 1992
1:30-5:00 PM
Joseph Wood Krutch Theater
(Clark Kerr Campus Center)
University of California, Berkeley

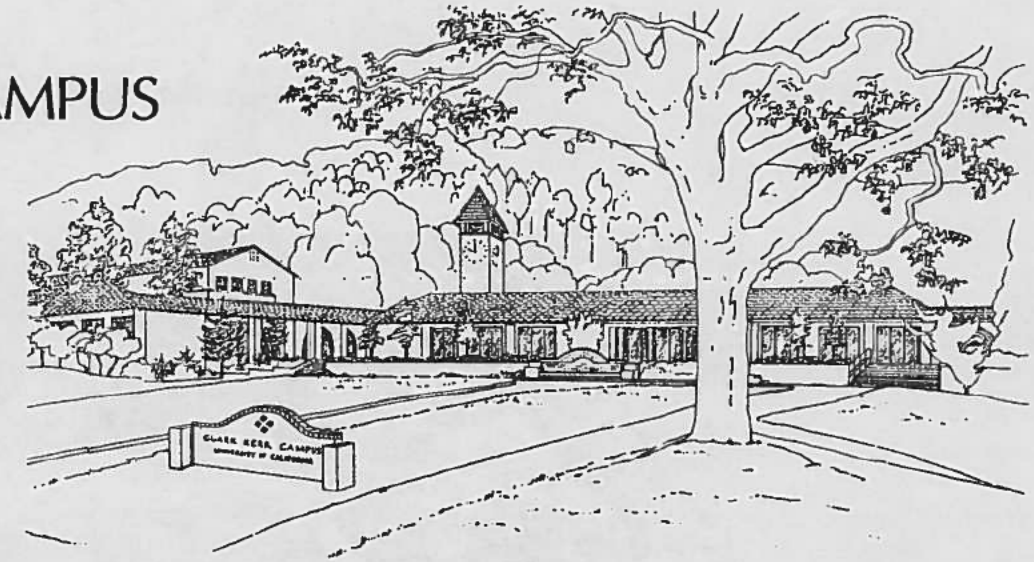
1:30	Barbara H. Bowman	WELCOME AND OPENING REMARKS
1:40	Thomas H. Jukes	Allan Wilson and Molecular Evolution
1:55	W. Kelley Thomas	Evolution by Base Substitution in Animal mtDNA
2:15	Andrew P. Martin	Scratching the Surface with Tooth and Nail: Comparison of Rates and Patterns of Cytochrome *b* Evolution in Sharks and Mammals
2:35	J. Koji Lum	Understanding Human Migration into the Pacific and Polynesia: a Mitochondrial Perspective
2:55		BREAK FOR COFFEE
3:30	David B. Wake	Allan Wilson: Colleague and Evolutionary Biologist
3:40	Janet R. Kornegay	Flying Cows: Stomach Lysozyme Evolution in an Avian Foregut Fermenter
4:00	Noreen R. Tuross	Ancient Molecules in Bone: How Far Back in Time?
4:20	Tom W. Quinn	CLOSING REMARKS

The study of molecular evolution occupies a special position in contemporary biology. In trying to link gene to organism, it touches molecular biology, cell biology, developmental biology, physiology, anatomy and behavioral biology. It also requires an understanding of how genes behave in populations, and the disciplines of taxonomy, paleontology and geology are involved. No other field touches all these aspects of biology and geology. The study of molecular evolution provides an opportunity to build bridges between biological disciplines and by so doing contributes to the unification of the life sciences.

- Allan C. Wilson, 1985

The co-conveners, Barbara Bowman and Tom Quinn, wish to thank the Alfred P. Sloan Foundation, the Society for the Study of Evolution, and the speakers for making this symposium possible. We speak for Allan's students and associates in expressing our deep gratitude to Allan himself for his constant support and enlightening ideas which have touched all of us in our professional and private lives.

Welcome to Clark Kerr Campus



On behalf of the staff at Clark Kerr Campus, welcome to the University of California at Berkeley's residence halls. We hope your stay is enjoyable. The front desk is located in Building 1, and is open from 7:00 am to 11:00 pm daily. If we can be of assistance, please drop by our office. For assistance after hours, call the office at 2-6290 from your room phone and your call will be forwarded to the clerk on duty.

Room & Roommate Assignments

Your room and roommate assignments were made in advance with your conference organizer. Please do not make room changes.

Furniture Arrangement

We have arranged each room to ensure your comfort. If you should change the arrangement, please return the room to its original configuration before you check-out.

Keys

Your assigned building and room number are imprinted on the paddle attached to your key. Use this key to access your building, your room and public areas in the building.

Lost keys are serious security risks. If you lose your key, you must contact the front desk right away. Lost keys and keys not returned upon check-out are subject to a $35.00 replacement fee.

Lock Outs

If you are locked out of your room during office hours, please go to the front desk in Building 1. If the office is closed, call 2-6290 on a campus phone (642-6290 on a pay phone) and you will be connected with the clerk on duty. The clerk will either let you into your room or loan you a temporary key. Please be prepared to show the clerk photo identification.

Lost Meal Cards

You have been issued a meal card which you must present each time you enter the dining room. If you misplace your meal card, you may purchase a new card at the front desk. There is a $5.00 replacement fee that must be paid in cash when the new card is issued.

Telephone

Your room is equipped with telephone service for campus and local calls. Dialing instructions are located next to the phone. If you do not locate this card, the front desk can provide you with a copy.

Telephone messages may be left for you at the front desk. All messages will be placed on the message board in the lobby of Building 1. The message telephone numbers is: (510) 642-6290.

Newspapers

Local newspapers may be purchased from coin operated stands located outside of the dining hall (Building 10) or at the bottom of the driveway on Warring Street.

Mail

If you receive a letter during your stay, a notice will be posted on the message board in the lobby of Building 1. Letters should be addressed as follows:

Your Name
Name of Your Conference
Clark Kerr Campus
2601 Warring Street
Berkeley, CA 94720
USA

Stamps & Change

Postage stamps and change for vending machines are available at the front desk.

Maintenance

If you notice that a repair is needed in your room, please contact the front desk and our maintenance staff will correct the problem.

Fire Alarm

The fire alarm is an intermittent, shrill bell. At the sound of the alarm, you MUST vacate the building. The Fire Department will check all rooms and issue fines to those who do not vacate the building.

Parking

If you were issued a yellow conference parking permit, it must be displayed on your dashboard. You may park in the Southwest Lot or the Northwest Lot. Consult your conference organizer to determine the arrangements for your group.

Recreational Swimming

The Golden Bear Recreation Center swimming pool is located on the northeast side of the Clark Kerr Campus. The cost is $3.50 per entrance. Call 2-9821 for more details.

Open swim hours are:

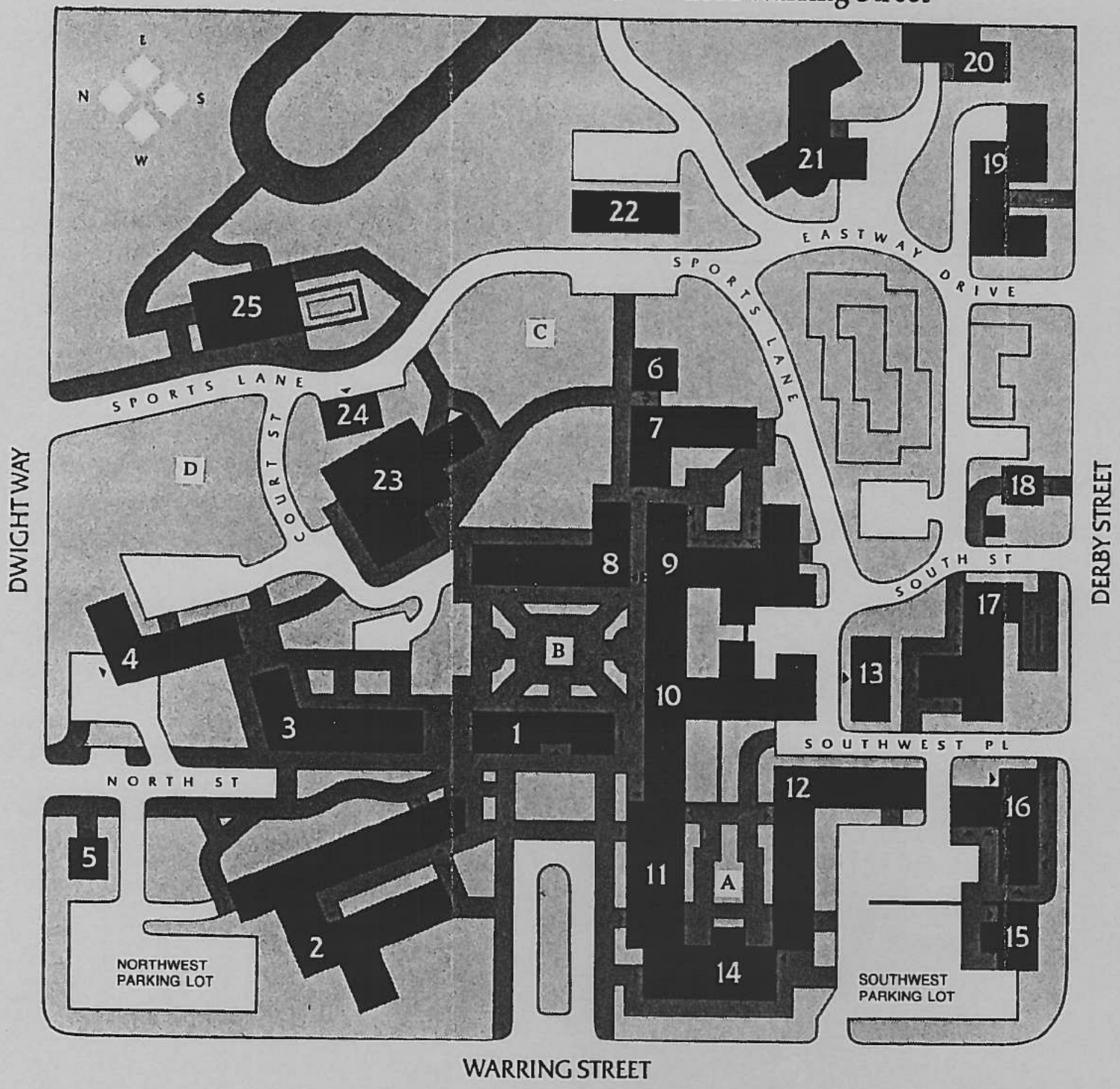
Monday - Friday
12:00 noon to 3:00 pm
Saturday - Sunday
12:00 noon to 5:45 pm

Check-Out

You must check out by 1:00 pm, unless other arrangements have been made by your conference coordinator. To check out, you must return your key to the front desk. If you do not return your key by check-out time, you will be charged a $35.00 replacement fee.

CLARK KERR CAMPUS

2601 Warring Street



DIRECTORY

1. Administration (Conference Services Office)
2. Suites
3. Residence Hall
4. Residence Hall
5. Faculty House
6. Faculty House
7. Residence Hall
8. Residence Hall
9. Suites
10. Dining Center:
    - Garden Room
    - Great Hall
    - Executive Dining Room
11. Suites
12. Residence Hall
13. Steam Plant
14. Clark Kerr Campus Center (Joseph Wood Krutch Theater)
15. Mini Gym
16. Suites
17. Suites
18. Faculty House
19. Faculty Apartments
20. Faculty Apartments
21. Archives
22. Auxiliary Gym
23. Archives
24. Recreation Maintenance
25. Goiden Bear Recreation Center

A. Ginkyo Court
B. Grand Court
C. Golden Bear Recreation Center Barbecue Field
D. Golden Bear Recreation Center Softball Field

▲ Indicates building entrance