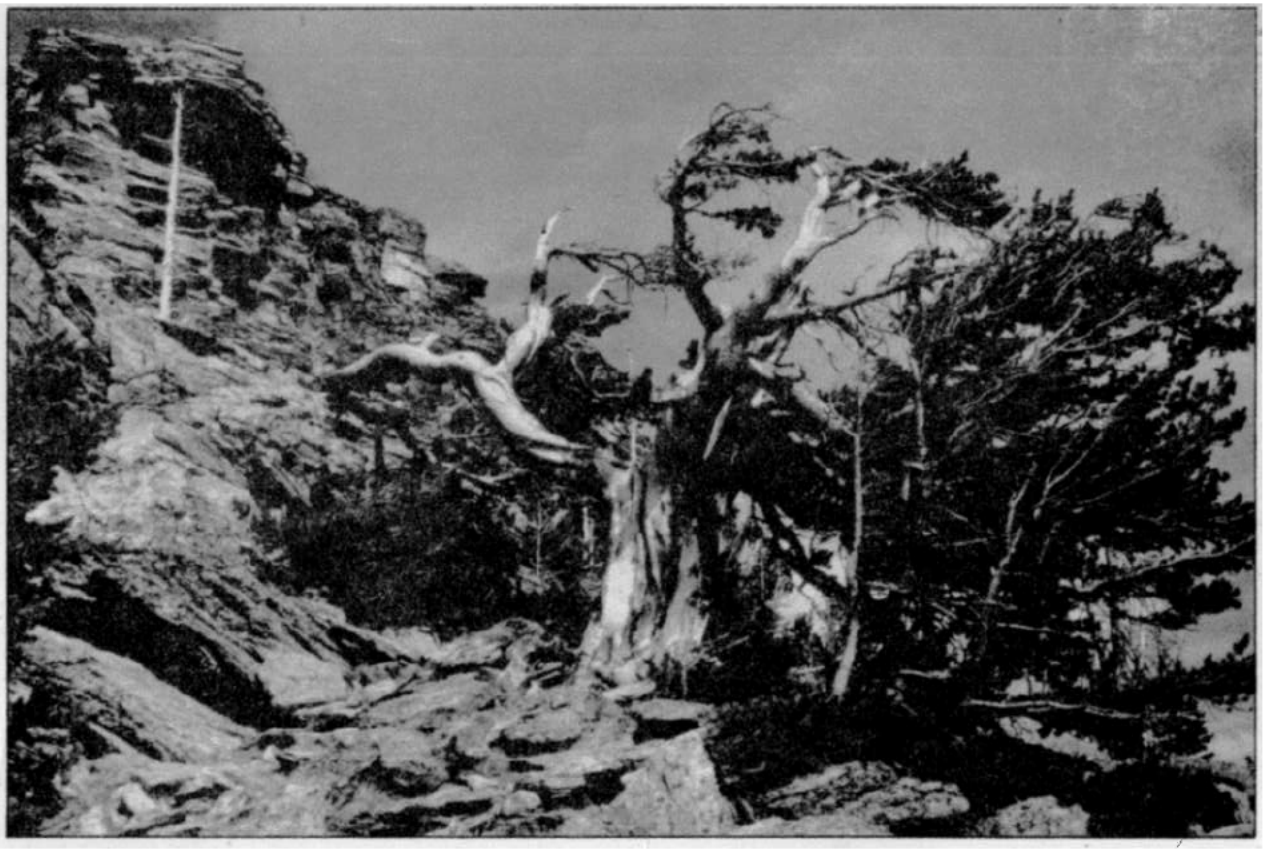
Annual Meeting

American Society of Naturalists

Society of Systematic Biologists

Society for the Study of Evolution

June 14 - 18, 1997
Boulder, Colorado



Joint Meeting of ASN, SSB and SSE
Shuttle Bus Schedule

Saturday, June 14

5:00 pm - 10:00pm	Kittredge - Williams Village

Sunday, June 15

7:30 - 9:30am	Williams Village, Holiday Inn - UMC
5:00 - 6:30pm	UMC - Williams Village, Holiday Inn, Kittredge
7:00 - 8:30pm	Williams Village, Holiday Inn, Kittredge - Macky
9:30 - 11:15pm	Macky - Williams Village, Holiday Inn, Kittredge

Monday, June 16

7:30 - 9:30am	Williams Village, Holiday Inn - UMC
4:30 - 7:00pm	UMC - Holiday Inn - Williams Village
7:15 - 8:15pm	Williams Village - Macky, Kittredge, Holiday Inn
8:45 - 9:30pm	Macky - Williams Village, Kittredge, Holiday Inn

Tuesday, June 17

7:30 - 9:30am	Williams Village, Holiday Inn - UMC
5:00 - 7:00pm	UMC - Holiday Inn - Williams Village
7:15 - 8:15pm	Williams Village, Holiday Inn, Kittredge - Macky
8:45 - 9:30pm	Macky - Williams Village, Kittredge, Holiday Inn

Wednesday, June 18

7:30 - 9:30am	Williams Village, Holiday Inn - UMC
11:00 - 12:30pm	UMC - Holiday Inn, Kittredge, Williams Village

Please note: Participants living at the Broker Inn may walk across the street to Williams Village to board the shuttle bus

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Table of Contents

Meeting Host: Jeff Mitton
Program Organization: Brian Kreiser

Front Cover: An ancient limber pine, *Pinus flexilis*, near Trail Ridge Road, Rocky Mountain National Park

Back Cover: Common killifish, *Fundulus heteroclitus*, swimming over a bed of blue mussels, *Mytilus edulis*
Drawing by Jan Logan

Of special interest: Linhart, Y.B. 1997. The teaching of evolution - we need to do better. BioScience 47: 385-391.

Summary Schedule of Events

6/14 (Sat)	2:00-9:30PM	Proutfest - Symposium and Dinner at the Mountain Research Station
	1:00-9:00	Registration at Williams Village
	1:00-3:00	ASN/SSB/SSE Coordinating Council Meeting (Williams Village 103)
	3:00-5:00	ASN, SSB, SSE Council Meetings (Williams Village 101, 103 and 100)
	7:00-10:00	Welcome reception, Williams Village
6/15 (Sun)	8:30-12:00	SSB Symposium - "Large Data Sets"
	8:30-12:00	Concurrent Paper Sessions
	12:00-1:30	Lunch
		SSE Business Meeting (12:30-1:30)
		NSF Information Session: Program updates, the review process, and questions and answers
	1:30-5:00	ASN Vice President's Symposium - "Adaptive Hypotheses"
	1:30-5:00	Concurrent Paper Sessions
	4:30-5:30	SSE Presidential Address: R. Lande
	4:30-6:30	Poster Session #1
	8:00-9:00	Address by Professor E.O. Wilson
	9:00-11:00	Social for E.O. Wilson
6/16 (Mon)	8:00-12:00	SSE Symposium - "Mutations"
	8:30-12:00	Concurrent Paper Sessions
	12:00-1:30	Lunch
		ASN Business Meeting (12:30-1:30)
		NIH Grants Workshop
	1:30-5:00	SSB Symposium "Developmental Patterns"
	1:30-5:15	Concurrent Paper Sessions
	4:30-6:30	Poster Session #2
	6:00-7:45	Barbecue
	8:00-9:00	ASN Presidential Address: G. Vermeij
6/17 (Tues)	8:30-11:30	ASN Young Investigators Symposium
	8:30-12:00	Concurrent Paper Sessions
	12:00-1:30	Lunch
		SSB Business Meeting (12:30-1:30)
		NSF Population Biology: Open Discussion - The role of model organisms in research in population biology
	1:30-5:00	SSE Symposium - "Self-Recognition Systems"
	1:30-5:15	Concurrent Paper Sessions
	4:30-6:30	Poster Session #3
	5:30-6:30	ASN/SSB/SSE Coordinating Council Meeting
	6:00-7:45	Banquet
	8:00-9:00	SSB Presidential Address: J. Savage
6/18 (Wed)	8:00-12:00	Concurrent Paper Sessions

Notice to Speakers and Poster Presenters

Speakers:
Please check the schedule to reconfirm the session and time of your talk. There may have been some minor changes in the presentation number and time of your talk since the preliminary program was posted on the website. The 15 minutes that you are allotted includes both the presentation and question periods. To keep the session on schedule please do not exceed this time limit. The chair of the session will signal you at 12 minutes and then physically remove you from the podium at 15 minutes.

Poster Presenters:
Each poster has been assigned a number corresponding to a reserved space. You are allowed 4 ft. by 4 ft. for your poster. Please do not encroach upon the space of other presenters. There are three separate posters sessions (Sunday, Monday and Tuesday afternoons). Posters may be put up from 2:00-4:00 on the day in which you are presenting. For the Sunday and Monday sessions, posters must be removed by 2:00 the next day. Posters in the Tuesday session must be removed at the end of the session. All posters sessions will be located in UMC East Ballroom.

Exhibitors - Book Publishers

There will be a book publisher's display in the UMC West Ballroom. We hope that all participants will stop by during the course of the meeting to see the books from these fine publishers.

Oxford University Press

Blackwell Science Inc.

Academic Press

Harvard University Press

Princeton University Press

Sinauer Associates, Inc.

The University of Chicago Press

University Press of Colorado

Saturday, 14th June

1:00-9:00	Registration at Williams Village
2:00-9:30	Proutfest - Symposium and Dinner at the Mountain Research Station
1:00-3:00	ASN/SSB/SSE Coordination Council Meeting - Williams Village Darley Commons 103
3:00-5:00	ASN Council Meeting - Williams Village Darley Commons 101 SSB Council Meeting - Williams Village Darley Commons 103 SSE Council Meeting - Williams Village Darley Commons 100
7:00-10:00	Welcome Reception - Williams Village

Sunday, 15th June

		UMC Center Ballroom
8:30-12:00		Symposium 1 - Phylogenetic Analyses of Large Data Sets Organizers: Pamela Soltis and Douglas Soltis
8:30	1	Efficiency of Phylogenetic Methods with Large Data Sets *D.M. Hillis
9:00	2	Tree Comparison Metrics for the Evaluation of Large Data Sets *D. Penny, M. Hendy
9:30	3	Inference and Reliability of Large Phylogenies Under the Minimum Evolution Criterion *S. Kumar
10:00-10:30		Break
10:30	4	Advantages of Parsimony Jackknifing *J.S. Farris, V. Albert
11:00	5	The Construction of Maximally Informative Phylogenetic Supertrees *M.J. Sanderson, C. Henze
11:30	6	Using Ancestral States as Terminal Taxa: An Empirical Approach *P.S. Soltis, D.E. Soltis

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		JILA Auditorium
8:30-10:00		Session 1 - Adaptation and Plasticity Chair: Sally Aitken
8:30	7	Phenotypic Plasticity and Drought Sensitivity in Douglas-Fir (*Pseudotsuga Menziesii*) *S.N. Aitken, B.J. Yoder, K.L. Kavanagh, B.L. Gartner
8:45	8	Causes and Consequences of Variation in Germination for a Winter Annual: Evidence for Adaptation to Desert Environments? *M.J. Clauss, D.L. Venable
9:00	9	Ecophysiology of Water Relations in *Arabis Fecunda*, a Rare Plant *J. Mckay, J. Richards, T. Mitchell-Olds, A. Sala
9:15	10	Sources of Genotype X Environment Interaction for Fitness in *Plantago Lanceolata* *S.A. Dudley, J. Schmitt
9:30	11	Parental Effects in *Plantago Lanceolata*. III. The Measurement of Temperature Effects in the Field *E.P. Lacey, D. Herr
9:45	12	Salt Tolerance in *Plantago Coronopus*: Responses to Artificial Selection in Constant and Heterogeneous Environments *M. Smekens, P. Van Tienderen

Fine Arts N141

8:30-10:00 Session 2 - Life Histories and Development
Chair: Christian Klingenberg

8:30 13 The Costs and Benefits of Fusion (Chimera Formation) in the Marine Bryozoan *Fenestrulina* Sp.
*S.F. Craig

8:45 14 Quantifying Fluctuating Asymmetry with Geometric Morphometrics
*C.P. Klingenberg

9:00 15 Morphogenesis of the Gastropod Radulae: Character States in Transformation
*D.R. Lindberg, R.P. Guralnick

9:15 16 The Evolution Life History and Population Stability in Laboratory Populations of *Drosophila*
A. Joshi, *L. Mueller

9:30 17 Snail Trematode Interactions: Tests of Gigantism, Fecundity Compensation and Juvenile Susceptibility in the Freshwater Snail *Potamopyrgus antipodarum*
*A. Krist, C. Lively

9:45 18 Spontaneous Mutation Accumulation in *Caenorhabditis elegans*
*L.L. Vassilieva, M. Lynch

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Chemistry 140

8:30-10:00 Session 3 - Hybridization And Sexual Isolation
Chair: Jeffrey McKinnon

8:30 19 A Test of Parallel Speciation Using Japanese and British Columbia Populations of the Threespine Stickleback
*J.S. McKinnon, D. Schluter, S. Mori

8:45 20 Male Preference for Hybrid Phenotypes in a Gynogenetic Complex of Poeciliid Fishes
*L. Dries

9:00 21 Hybridization and Introgression Between Two Species of *Orconectes* Crayfishes in Northern Wisconsin, and It's Implications for Species Invasions
*W.L. Perry, J.L. Feder, D.M. Lodge

9:15 22 Asymmetric F1 Parentage in a Newt Hybrid Zone
*G.P. Wallis, J.W. Arntzen

9:30 23 An Incipient Speciation Event in the *Drosophila willistoni* Group
*V.R. DeFilippis, F.J. Ayala

9:45 24 Reproductive Isolation Between Sympatric Populations of Pea Aphids on Two Hosts: Fitness of Hybrids
*S. Via

Chemistry 142

8:30-10:00 Session 4 - Behavior
Chair: Thomas Getty

8:30 25 End-Products of Behaviour vs. Behavioural Characters: Which Gives a More Reliable Phylogeny for Blackflies (Diptera: Simuliidae)?
*A. Stuart, F. Hunter

8:45 26 Variation in Increased Male Mortality Due to Mating with Males of Different Strains of *Drosophila melanogaster*
R. Smith, *N.A. Johnson

9:00 27 Evolution of Recognition Behavior and Morphological Stasis in the Botryllid Ascidians
*C.S. Cohen

9:15 28 Sex Allocation Patterns in Haplodiploid, Gall-Forming Thrips (Insecta: Thysanoptera)
*B. Kranz, B. Crespi, M. Schwarz, L. Mound

9:30 29 Handicap Signaling: When Fecundity and Viability Do Not Add Up
*T. Getty

9:45 30 Phenotypic Engineering of a Pheromone Reveals a Multi-Component Badge of Status
*P.J. Moore, K.F. Haynes, A.J. Moore

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Ramaley C250

8:30-10:00 Session 5 - Population Genetics
Chair: Tracie Jenkins

8:30 31 Phylogeography of a Relict Species: The Iowa Pleistocene Snail (*Discus macclintocki*)
*T. Ross

8:45 32 Mitochondrial DNA Genetic Patterns in the Subterranean Termite (Isoptera: Rhinotermitidae)
*T.M. Jenkins, B.T. Forschler

9:00 33 Genetic Variation in Populations of the Fathead Minnow (*Pimephales promelas*) and the Plains Killifish (*Fundulus zebrinus*) from an Intermittent Stream
*B.R. Kreiser, J.B. Mitton, J. Woodling

9:15 34 Genetic Differentiation among Pygmy Whitefish (*Prosopium coulteri*) Populations, with Varying Life History Traits, Using RAPD and Mitochondrial Gene Sequence Analysis
*L. Rankin, D.M. Blouw, D.D. Heath

9:30 35 Mitochondrial DNA Variation in the Blue Crab (*Callinectes sapidus* Rathbun): Are the Highly Diverse Haplotypes Geographically Structured?
*A.L. McMillen-Jackson, T.M. Bert

9:45 36

UMC 235

8:30-10:00 Session 6 - Quantitative Genetics
Chair: Adam Chippindale

8:30 37 Age-Specific Properties of Spontaneous Mutations Affecting Mortality in *Drosophila melanogaster*
*S.D. Pletcher, J.W. Curtsinger

8:45 38 Mapping of Genetic Factors Causing Genotype-By-Environment Interaction for Fitness in *Drosophila melanogaster*
*J.D. Fry, S. Nuzhdin, E. Pasyukova, T.F.C. Mackay

9:00 39 Measuring Heritable Variation in Net Fitness: A New Technique Using Cytogenetic Cloning of *Drosophila*
*A. Chippindale, B. Rice

9:15 40 The Evolution of Threshold Traits: A Quantitative Genetic Analysis of the Physiological and Life History Correlates of Wing Dimorphism
*D. Roff, G. Stirling, D. Fairbairn

9:30 41 Partitioning a Fitness Tradeoff: Genetic and Physiological Components
*G. Stirling, D. Roff

9:45 42

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Old Main Chapel

8:30-10:00 Session 7 - Plant Mating/Breeding Systems
Chair: Phil Gibson

8:30 43 Experimental Test of Differential Seed Fitness in a Gynodioecious Species: Negative Pleiotropy vs. Gametophytic Selection
*L. Delph

8:45 44 Sex Allocation in Monomorphic and Dimorphic Populations of a Gynodioecious Plant, *Lobelia siphilitica*
*D. Dudle

9:00 45 Evolution of Gynodioecy in a Tropical Tree: Influence of Mating System and Floral Development
*P. Gibson, P. Diggle

9:15 46 Gender Specialization in Andromonoecious *Solanum carolinense*: Results from Field and Quantitative Genetic Studies
*E. Elle

9:30 47 Factors Influencing Sex Expression in *Wurmbea dioica* (Colchicaceae): Implications for the Evolution of Dioecy
*A. Case, S.C.H. Barrett

9:45 48 Mating System Evolution in *Linanthus* (Polemoniaceae): Phylogenetic Evidence from ITS Sequence Data
*C. Goodwillie

10:00-10:30 Break

JILA Auditorium

10:30-12:00 Session 8 - Adaptation and Plasticity
Chair: Susan Mopper

10:30 49 Is Adaptive Radiation Sex Specific? A Case Study in *Anolis* Lizards
*M. Butler

10:45 50 Phylogenetic and Ecological Aspects of Cooperative Breeding in the Bee-Eaters (Aves: Meropidae)
*B. Burt

11:00 51 Genetic Structure and Local Adaptation in a Dispersive Leafmining Insect
*S. Mopper, K. Landau

11:15 52 Genetic Basis of an Adaptive Radiation:Warning Color in Two *Heliconius* Species
*W.O. McMillan, C.D. Jiggins

11:30 53 Genetics of Adaptation: The Genetics of *Drosophila sechellia*'s Resistance to a Naturally Occuring Toxin
*C. Jones, H.A. Orr

11:45 54 Variation and Possible Evolution of Dominance of an Insecticide Resistance Gene
*D. Bourguet, F. Didier, R. Michel

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Fine Arts N141

10:30-12:00 Session 9 - Life Histories and Development
Chair: David Baum

10:30 55 Demographic Consequences of Variation in Life Histories of a Long-Lived Perennial Monocarpic Gentian, *Frasera speciosa*
*D.W. Inouye

10:45 56 Inclusive Fitness Theory and the Evolutionary Origin of Endosperm
*W. Friedman

11:00 57 The Molecular Genetic Basis for the Evolution of Solitary Flowers in Brassicaceae
*D. Baum, G. Shu, W. Amaral, E. Freeman

11:15 58 Evolution of Response to Light Signals in Wild Populations of *Arabidopsis thaliana*
*H. Callahan, M. Pigliucci

11:30 59 Ontogeny and Phylogeny of Marsileaceous Ferns: Evidence for Heterochrony
*K. Pryer

11:45 60

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Chemistry 140

10:30-12:00 Session 10 - Geographic Variation and Hybrid Zones
Chair: Jon Bridle

10:30 61 A Mosaic Hybrid Zone Between Species of the *Biguttulus* Group of Chorthippus Grasshoppers in Northern Spain
*J. Bridle, R. Butlin

10:45 62 The Role of Host-Plant Choice in the Local Adaptation of Divergent Pea Aphid Populations in Sympatry
*M. Caillaud, S. Via

11:00 63 Fine Scale Structure of a Field Cricket Mosaic Hybrid Zone
*C. Ross

11:15 64 Role of *Wolbachia* Infections in Two Hybrid Zones
*R. Giordano, J.J. Jackson, H.M. Robertson

11:30 65 Evidence of Hybridization Among Black Oaks of Eastern North America Based on Molecular Markers and Quantitative Morphometrics
*M.A. Thomas, B.A. McPheron, J.C. Schultz

11:45 66 An Ancient Polyploid Hybrid Zone in Birch (*Betula*).
*J.H. Williams, Jr, M.L. Arnold

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Chemistry 142
10:30-12:00 Session 11 - Ecological Genetics
Chair: Joe Pollard

10:30 67 Intra-population Sex Ratio Variation in the Salt Grass *Distichlis spicata*.
*S. Eppley, M.L. Stanton, R.K. Grosberg

10:45 68 Relative Fitness of Polyploid Cytotypes of Big Bluestem *Andropogon gerar* (Poaceae)
*K. Keeler

11:00 69 Fitness Consequences of Transplantation in *Lotus scoparius*: Preliminary Test of the Outbreeding Depression Hypothesis
*A. Montalvo

11:15 70 Natural Selection on a Leaf Shape Polymorphism in the Ivyleaf Morning Glory (*Ipomoea hederacea*)
*K. Bright

11:30 71 Ecological Genetics of Heavy Metal Hyperaccumulation in *Thlaspi caerulescens*
*J. Pollard, K. Dandridge, E. Jhee

11:45 72

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Ramaley C250
10:30-12:00 Session 12 - Population Genetics
Chair: Janice Bossart

10:30 73 Genetic Structure in a Coastal Dune Spider (*Geolycosa pikei*) on Long Island, New York Barrier Islands: A Test of the Linear Stepping-Stone Model
*A.M. Boulton, M.G. Ramirez, C.P. Blair

10:45 74 Comparative Population Genetics of Endemic Sonoran Desert *Drosophila*
*C. Breitmeyer

11:00 75 Minimal Genetic Variation in Costal Dune Wolf Spiders
*M.G. Ramirez, A.M. Boulton, J.M. Lenes, W.J. Farr, K.K. Lay

11:15 76 How Reliable Are Indirect Estimates of Gene Flow?
*J.L. Bossart, D.P. Prowell

11:30 77 Evolution in Fragmented Populations: Testing an Extinction/Recolonization Metapopulation Genetics Model Using Visible Genetic Markers
*A.M. McMillan

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UMC 235
10:30-12:00 Session 13 - Quantitative Genetics
Chair: Thomas Meagher

10:30 79 Retrospective Selection Gradient Analysis of Sexual Dimorphism in *Silene latifolia*
*T.R. Meagher

10:45 80 Phylogenetic Patterns of Floral Evolution in *Silene* sect. Elisanthe
D.E. Costich, *T.R. Meagher

11:00 81 Evolution of Insect Resistance in *Arabidopsis thaliana*
*B. Barker, T. Mitchell-Olds, M. Tobler

11:15 82 Responses to Selection on Male and Female Investment in *Spergularia marina* (Caryophyllaceae): The Second Generation
*S.J. Mazer, V.A. Delesalle, P. Neal

11:30 83 Diminishing-Returns Epistasis in an *Escherichia coli* DNA Repair Mutant
J. Blanchard, M. Lynch*

11:45 84 Genetic Integration of Maternal and Offspring Characters
*J.B. Wolf, E.D. Brodie III

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Old Main Chapel
10:30-12:00 Session 14 - Plant/Animal Interactions
Chair: Yan Linhart

10:30 85 Fitness Benefits of Induced Responses to Herbivory in a Wild Mustard
*A.A. Agrawal

10:45 86 Effects of Deer Mouse Granivory on the Population Dynamics of Bush Lupine: Is Seedlings Recruitment Limited By Safe Sites or Seeds?
J.L. Maron, *E.L. Simms

11:00 87 The Dimensions of Plant Resistance to Herbivory: Looking Beyond Phytochemistry
*A.E. Weis

11:15 88 Evolutionary Consequences of Differential Host Utilization By Two Parasites of Ponderosa Pine
*Y.B. Linhart, M.A. Snyder

11:30	89	Selection on Flower Color Polymorphism From Foliage-Feeding Herbivores? *S.Y. Strauss, A. Emerson
11:45	90	Genetic Variability for Tolerance to Defoliation in *Datura stramonium* *J.E. Fornoni, J. Núñez-Farfán

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12:00-1:30 - Lunch

- SSE Business Meeting (12:30-1:30) - UMC 157

- UMC Forum
NSF Information Session: Program updates, the review process, and questions and answers
L. Lyons, M. Courtney (Population Biology) & C. O'Kelly (Systematic Biology)

UMC Center Ballroom

1:30-5:00 Symposium 2 - Testing Adaptive Hypotheses Through Genetic and Physiological Manipulation
Organizer: Johanna Schmitt

1:30	91	Manipulative Approaches to the Study of Adaptive Plasticity *J. Schmitt
2:00	92	Phenotypic Engineering: Using Hormones to Explore Adaptation *E. Ketterson, V. Nolan
2:30	93	Experimental Manipulations of Reproductive Allocation and Life History Adaptation *B. Sinervo
3:00-3:30		Break
3:30	94	Transgenes in the Analysis of Stress Tolerance and Life Histories *M. Tatar
4:00	95	Evolutionary Physiology of Heat Shock Proteins and the Stress Response in *Drosophila*: How Directed Mutagenesis and Natural Variation Can Contribute to Understanding Adaptation *M. Feder
4:30	96	Exploring the Evolution of Plant Defenses with Transgenes *J. Bergelson, C. Purrington

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JILA Auditorium

1:30-3:00 Session 15 - Coevolution
Chair: William Rice

1:30	97	Correlation Between Virulence and Vertical Transmission in a Plant Pathogen and It's Consequences on the Evolution of Pathogen's Virulence. *P.X. Kover, K. Clay
1:45	98	A Model of Endosymbiotic Mutualism with Horizontal Transmission: Host Strategies to Minimize Symbiont Cheating *T. Wilcox

2:00 99 The Intraspecific Red Queen as a Catalyst in Evolution
*W.R. Rice

2:15 100 Red Queen Meets Santa Rosalia: Evolution of Specialization Driven by Arms-Races
*T.J. Kawecki

2:30 101 The Evolution of Specialization in the Seed Beetle Genus *Stator* (Coleoptera: Chrysomelidae: Bruchinae)
*G. Morse, B. Farrell, C.D. Johnson

2:45 102 Host-Plant Use Drives Polymorphism in *Heliconius* Butterflies
*D.D. Kapan

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Old Main Chapel

1:30-3:00 Session 16 - Sexual Selection
Chair: Robert Warner

1:30 103 Antagonistic Seduction - A New Hypothesis for the Evolution of Ornaments
*B. Holland

1:45 104 Variation Among Taxa in a Pre-Existing Bias
*A.L. Basolo

2:00 105 Courtship as an Indicator of Safety Rather Than Male Quality
*R.R. Warner

2:15 106 Polyandry as a Hedge Against Genetic Incompatibility
*J.A. Zeh, D.W. Zeh

2:30 107 Sexual Selection, Nearly Neutral Theory and the Rate of Molecular Evolution
*P. Wimberger, R. Reis

2:45 108 Empty Nuptial Gifts in an Empidid Fly, *Empis snoddyi*: Bigger Isn't Always Better
*J.A. Sadowski, A.J. Moore, E.D. Brodie III

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UMC 235

1:30-3:00 Session 17 - Molecular Evolution
Chair: Scott Edwards

1:30 109 Test of Convergent and Parallel Evolution at the Amino Acid Sequence Level
*J. Zhang, S. Kumar

1:45 110 Something Odd Has Happened in a *Mus* Histone H2a Pseudogene
*R.W. Debry

2:00 111 Cloning and Evolution of Mhc Class II Genes from North American Songbirds
*S.V. Edwards, J. Gasper

2:15 112 Selective Regimes Affecting Replacement Substitutions in *D. melanogaster* and *E. coli* Are Revealed Through Quantifying the Bioenergetic Costs of Amino Acid Synthesis
*C.L. Craig, R.S. Weber

2:30 113 Evolution of Abalone Sperm Fertilization Proteins and Characterization of the Egg Receptor
*W.J. Swanson, V.D. Vacquier

2:45 114 Contrasting Patterns of Molecular Evolution Among Invertebrate Sperm-Egg Recognition Loci
*E.C. Metz, V.D. Vacquier

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Ramaley C250

1:30-3:00 Session 18 - Population Genetics
Chair: Matthew Hare

1:30 115 Using Introns to Measure Intraspecific Genetic Structure: Distinguishing Loci, Alleles, and Polymerase Errors
*S.C. France, S.R. Palumbi

1:45 116 Multilocus Approaches to Individual and Population Origins
*N. Davies, F.X. Villablanca, G.K. Roderick

2:00 117 Use of Multiple Analyses (Phylogeny, Nucleotide Diversity, and Patterns of Sequence Variation) to Determine Effects of Historical Processes on Current Patterns of MtDNA Variation
*C.A. Tibbets

2:15 118 Moving Beyond MtDNA: Finding and Utilizing Numt (Nuclear DNA of Mitochondrial Origin) for the Construction of Intraspecific Gene Trees.
*M. Hare, S. Palumbi

2:30 119 Inferring Ancient Human Demographic History from Nuclear Microsatellite Haplotype Data
*S.A. Tishkoff, A.G. Clark

2:45 120 Using Coalescent Theory to Infer Historical Demography in the Phytophagous Beetle *Ophraella*
*L.L. Knowles, D.J. Futuyma

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Chemistry 140

1:30-3:00 Session 19 - Molecular Systematics
Chair: Mark Springer

1:30 121 Molecular Phylogeny of the Marmots (Rodentia: Sciuridae) and Its Significance for Holarctic and Amphiberingian Biogeography.
*S. Steppan, M. Hakhverdyan, E. Lyapunova, M. Braun

1:45 122 Phylogeny of the Extant Malagasy Lemuriformes Based on 16S Sequence Data and a Review of the Current Evidence
*K.F. Stanger-Hall, C. Cunningham

2:00 123 Molecular Evidence for a Diverse Clade of Endemic African Mammals
*M. Springer, M. Stanhope, W. De Jong

2:15 124 The Artiodactyl Radiations
*J. Gatesy

2:30 125 Mountain Sheep Evolution: Molecular and Morphological Perspectives
*R.R. Ramey II

2:45 126 Evidence From Two Mitochondrial Genes for the Relationships Within Perissodactyla
*J.E. Norman, M.V. Ashley

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Chemistry 142

1:30-3:00 Session 20 - Phylogenetic Methodology
Chair: Brian Crother

1:30 127 Sensitivity of Phylogeny Estimation to Incomplete Taxonomic Sampling
*S. Poe

1:45 128 Parsimony, Step Matrices, and the Interpretation of Homoplasy
*R. Ree, M. Donoghue

2:00 129 The Behavior of the PTP Test
*B.I. Crother, J.B. Slowinski

2:15 130 Is It Better to Add Characters or Taxa to a Difficult Phylogenetic Problem? A Simulation Study
*A. Graybeal

2:30 131 Bias Introduced into Majority Rule Consensus by Labile Taxa: Its Cause, Description, and Consequences for Bootstrap Analysis
C.D. Sumrall, C. Brochu, *J.W. Merck Jr.

2:45 132 Tree Shape Bias, Character Weighting, and the Impact of Noise on Phylogenetic Analysis.
*N. Caithness

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Fine Arts N141

1:30-3:00 Session 21 - Plant Mating/Breeding Systems
Chair: Judy Stone

1:30 133 Differential Siring Success of PGI Genotypes in *Clarkia unguiculata*
*S.E. Travers

1:45 134 Does Genetic Load Constrain the Origin of New S-Alleles in *Solanum carolinense*?
*J.L. Stone, M.K. Uyenoyama

2:00 135 Phenotypic and Genetic Components of Floral Display in *Eichhornia paniculata* (Pontederiaceae)
*A.C. Worley, S.C.H. Barrett

2:15 136 Diploid-Tetraploid Mating and the Evolution of Polyploidy in *Epilobium angustifolium* (Onagraceae)
*B.C. Husband

2:30 137 Models for Packaging and Provisioning in Plant Reproduction
*D.L. Venable

2:45 138 The Effects of Pollen Transport Characteristics on the Evolution of Pollen Size
*L.D. Harder

3:00-3:30		Break

JILA Auditorium

3:30-5:00 Session 22 - Evolutionary Theory
Chair: Sally Otto

3:30	139	QTL and Epistasis: The Quantitative Genetics of Metapopulations *C. Goodnight
3:45	140	The Origin of Order and Organization in Evolution: The Role of the Persistibility Selection Force *P. Johnson, U. Gullberg
4:00	141	The Effect of Recombination on Adaptive Peak Shifts in a Structured Population. *F.B-G. Moore, R. Lenski
4:15	142	Estimating Ancestral States of Behavior Under Varying Microevolutionary Scenarios *E.P. Martins
4:30	143	Rates of Evolution in Changing Environments *S. Otto, M. Whitlock
4:45	144	Population Dynamics Under Cytonuclear Selection *M.A. Asmussen, C.S. Babcock

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Old Main Chapel

3:30-5:00 Session 23 - Sexual Selection
Chair: Andy Snedden

3:30	146	The Influence of Opposing Selection Pressures on Cricket Calling Behavior *S. Bertram
3:45	147	Genetic Tradeoffs in the Calling Behavior of Male Field Crickets *W.E. Wagner Jr.
4:00	148	Females Prefer Leading Males: Precedence Effects Drive Chorus Structure in the Tœngara Frog *W.A. Snedden, A.S. Rand, M.K. Tourtellot
4:15	149	Precedence Effects and the Evolution Of Chorusing *M. Greenfield, W.A. Snedden, M.K. Tourtellot
4:30	150	Species and Mate-Quality Recognition in Spadefoot Toads *K. Pfennig
4:45	151	Historical Influences on Mate Recognition: Using Neural Networks to Model Sensory Biases in the Tungara Frog *S.M. Phelps, M.J. Ryan

Fine Arts N141

3:30-5:15 Session 24 - Speciation and Cladogenesis
Chair: Chris Schneider

3:30	153	Historical Allopatry, Divergence, and Speciation in the Prosobranch Snail Genus *Nucella* *P. Marko
3:45	154	Phylogeographic Patterns in Lowland Amazonian Frogs *A. Chek, S. Lougheed, J. Bogart, P. Boag
4:00	155	Multiple Independent Origins of Tetraploid *Tragopogon* Species (Asteraceae): Evidence from RAPD Markers *L.M. Cook, P.S. Soltis, S.J. Brunsfeld, D.E. Soltis
4:15	156	Recent Ice Age Origins for North American Songbirds: A Failed Paradigm. *J. Klicka, R.M. Zink
4:30	157	The Effect of Pleistocene Climate Change on Diversification in Australian Rainforests: The End of the Pleistocene Speciation Model *C. Schneider, C. Moritz
4:45	158	A Phylogenetic Assessment of the African Pycnonotidae and Its Implications for Speciation in the Afrotropics *K. O'Keefe, T.B. Smith
5:00	159	Adaptive Radiations in the Shrub Genus *Ceanothus*: An Examination of Proposed Models Using Internal Transcribed Spacer (ITS) Region Sequence Data. *T.M. Hardig, P.S. Soltis, D.E. Soltis

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UMC 235

3:30-5:00 Session 25 - Molecular Evolution
Chair: Hsiu-Ping Liu

3:30	160	Evolution of Two Mitochondrial Gene Regions in a Sea Star (*Leptasterias*) Cryptic Species Complex *A.W. Hrincevich, D.W. Foltz
3:45	161	End Products of Animal MtDNA Recombination *D.H. Lunt, B.C. Hyman
4:00	162	Evolutionary Patterns of Doubly Uniparental Inheritance in Freshwater Mussels *H-P Liu, M. Mulvey, J.B. Mitton
4:15	163	Evolution of Mitochondrial COII and New World Monkeys (Primates, Platyrrhini) *M. Von Dornum, M. Ruvolo
4:30	164	How Many Types of Mitochondrial DNA in a Grasshopper? *D. Bensasson, D. Zhang, G.M. Hewitt
4:45	165	Cytochrome-b Evolution in Birds and Mammals: Evidence for Increased Constraint in Birds? *S. Stanley

Ramaley C250

3:30-5:00 Session 26 - Population Genetics
Chair: Victoria Apsit

3:30 167 Population Genetic Variation in the Alpine Endemic *Eutrema penlandii* (Brassicaceae) and Its Widespread Relative *E. edwardsii*.
*R.C. Hardwick, L.P. Bruederle

3:45 168 Population Genetics of Mexican Plants: Does Genetic Differentiation Reflect High Speciation Rates?
*L.E. Eguiarte, J. Nuñez-Farfán

4:00 169 Population Genetics of *Rhizophora mangle* from Mexico
*J. Nuñez-Farfán, L.E. Eguiarte, C.A. Dominguez, R. Dirzo

4:15 170 Fragmentation and Pollen Movement in a Costa Rican Dry Forest
*V.J. Apsit, J.L. Hamrick

4:30 171 DNA Sequence Variation at Two Basic Chitinase Genes in *Arabis fecunda*, a Rare Plant
*J. Bishop, T. Mitchell-Olds, D. Pedersen, B. Stranger

4:45 172 The Effect of Mutation and Adaptive History in Experimental Evolution Of *E. coli*
*A. de Visser, C. Zeyl, J. Blanchard, R. Lenski

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Chemistry 140
3:30-5:00 Session 27 - Molecular Systematics
Chair: Paul Chippindale

3:30 174 The Evolution of Diapause in the Rivulidae: A Molecular Phylogenetic and Biogeographic Perspective
*T. Hrbek, A. Larson

3:45 175 Ancient Species Flocks in Marine Fishes? Tests Based on Molecular Phylogenetic Appraisals of the Sebastes Rockfish and Other Groups
*G.C. Johns, J.C. Avise

4:00 176 Molecular Systematics and Evolution of the Strike in Natricine Snakes (Colubridae)
*M.E. Alfaro

4:15 177 Phylogenetic and Population Genetic Utility of the Mitochondrial D-Loop Region in Central Texas Spring and Cave Salamanders, *Eurycea* snd *Typhlomolge*
*P. Chippindale, K. Burnside, P. Perryman, J. Willard

4:30 178 Examining the Hypothesis of a Phylogenetic Radiation in Caribbean Anoline Lizards Using Molecular Sequence Data.
*T. Jackman, J. Losos, A. Larson, K. de Queiroz

4:45 179 Evolution of North American Softshell Turtles: A Possible Exception to the Theory of Slow Rates
*D.W. Weisrock, F.J. Janzen

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Chemistry 142
3:30-5:15 Session 28 - Phylogenetic Methodology
Chair: Guy Hoelzer

3:30 181 Bayesian Phylogenetic Inference Using DNA Sequences
*B. Rannala, Z. Yang

3:45	182	Extracting Species Trees from Complex Gene Trees *R. Page, M. Charleston
4:00	183	Relative Apparent Synapomorphy Analysis (RASA): A Tree-Independent Method of Phylogenetic Data Analysis. *G.A. Hoelzer, J. Lyons-Weiler
4:15	184	Detection and Remediation of the Effects of Long Branch Attraction Using RASA *J. Lyons-Weiler, G.A. Hoelzer
4:30	185	Molecular Systematics and Biogeography of Antillean Plant Groups *E. Santiago-Valentin, R.G. Olmstead
4:45	186	Inferring Species Trees from Gene Trees *J.B. Slowinski, R. Page
5:00	187	Causes And Consequences of Star-Phylogeny *M. Hedin

	UMC Forum
4:30-5:30	SSE Presidential Address: Genetics, Evolution and Conservation *Russell Lande

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		UMC East Ballroom
4:30-6:30		Poster Session 1
	188	Non-Linear Simulation of Natural Selection with Feedback *M.C. Grant, D. Robertson
	189	Detecting Epistatic Fitness Interactions in Haploids And Diploids *A.D. Peters
	190	A Computer Simulation Model of Parapatric Speciation *T. Gregg, J. Bloom
	191	A Graphical Model for the Occurrence and Frequency of Cannibalism in Polyphenic Salamanders *C. Beck
	192	How the Life History of Carp (*Cyprinus carpio*) Has Adapted to Regulated Rivers: The Role Of Naturalization and Domestication *P.D. Driver, R. Norris, G. Closs, J. Harris
	193	Genetic Diversity for Reaction Norms to Nutrient Availability in *Datura stramonium* *J. Núñez-Farfán, J.E. Fornoni, S.A. Careaga, F.A. Bazzaz
	194	The Genetic Architecture of Shade Avoidance Responses in *Impatiens capensis* *K. Donohue, J. Schmitt
	195	Tests of Evolutionary Hypotheses Using Hybrids Between *Drosophila serrata* and *D. birchii*. *D. Berrigan, M. Blows

196 Site-Directed Mutations Reveal Long-Range Compensatory Interactions in the Adh Gene of *Drosophila melanogaster*
*J. Parsch, S. Tanda, W. Stephan

197 Evolution of Senescence in Laboratory Populations of *Drosophila melanogaster*
C.A. Michieli, K. McGill, *P.M. Service

198 The Hormonal Basis of Life-History Variation: Juvenile Hormone Levels in Genetic Stocks of *Gryllus firmus* Differing in Early Reproduction
*G. Cisper, A.J. Zera

199 Theories of Aging: Testing a Fundamental Assumption
*P. Mack, L. Pearse, D. Promislow

200 Female Preference and Male Age in *Drosophila*
*D. Price

201 When Are Good Genes Good? Variable Outcome of Female Choice in Wax Moths
*F. Jia, M. Greenfield

202 Hybridization Among Three Species of *Strongylocentrotus* Urchins in the Pacific Northwest
*W.C. Prather, D.R. Levitan

203 An Association Between X-Linked Traits and Speciation in Fall Armyworm Moths
*D.P. Prowell, M. McMichael

204 Phylogeography of Lake Populations of *Daphnia* in Oregon
*D. Straughan, N. Lehman

205 Arthropod Phylogeography in Hawaii: 4 Paths in Paradise
*R. Gillespie, G. Roderick

206 Plant Response to Environmental Variation in the Big Sagebrush Hybrid Zone
*J.H. Graham, D.C. Freeman, H. Wang, E.D. McArthur

207 Selection Against Mating with Immigrants as a Mechanism of Sympatric Speciation - Computer Simulation.
*N. Mugue

208 Decline in a Cline: P Elements in Eastern Australian *Drosophila melanogaster* Populations
M. Itoh, *I.A. Boussy, R.C. Woodruff

209 Molecular Composition of B Chromosomes in the Grasshopper *Eyprepocnemis plorans*
*J. Cabrero, M.D. López-León, M. Bakkali, J.P.M. Camacho

210 Long Term vs. Short Term Genetic Structures of Self-Incompatible Populations Revealed by S-Allele and Neutral Gene Genealogies
*Y. Lu, N. Takahata, M.K. Uyenoyama

211 Interspecific Evolution of Linked Microsatellites in the Adaptively Radiating Hawaiian Silversword Alliance
*M. Barrier, R.H. Robichaux, M. Purugganan

212 Using Molecular Phylogeny to Infer Direction of Flight Evolution in Stoneflies
*M.R. Wolf, K.A. Walsh, G.H. Fitzhugh, J.H. Marden

213 RAGE (Rapid Assessment of Genomic Evolution): An Approach Based on Random Sequencing, and a Trial Application to the Genome of the House Fly (*Musca domestica*)
*S.A. McCommas, L. Fulton

214 Characterization of the Alpha-Tubulin Gene from the Macronucleus and Micronucleus of Two Ciliate Species: *Chilodonella uncinata* and *Euplotes crassus*
*E. Curtis, L.A. Katz, L.F. Landweber

215 Heterochrony in the Molecular Development Cascade of *Drosophila*
*J. Kim, J. Kerr

216 Characterization of LINE-1 Elements in *Microtus*
*C.D. Yarber, R.A. Grahn, H.A. Wichman

217 Factors Maintaining Androdioecy in the Desert Shrimp, *Eulimnadia texana*
*S.C. Weeks, N. Zucker

218 Microsatellite Markers Reveal Details of Family Structure in Ants
*J.M. Herbers

219 Hybrids as General-Purpose Genotypes: Phenotypic Plasticity and Predator-Driven Species Dynamics in *Daphnia* Hybrid Systems
*C. Wilson

220 Mating System and Progeny Characteristics of Nectar and Nectarless Honey Mesquites (Mimosoideae): Is Nectar Production an Adaptation?
*J. Golubov, L. Eguiarte, J. Lopez-Portillo, M. Madujano, C. Montana

221 Likelihood-Based Paternity Inference in Natural Populations
*T. Marshall, J. Slate, L. Kruuk, J. Pemberton

222 Climate Changes and Community Stability in a California Rocky Intertidal System
*S.E. Gilman, R.D. Sagarin, C.H. Baxter, J.P. Barry

223 An Ultrasensitive Method for Detection of Single Crab Larvae (*Sesarma reticulatum*) Using PCR Amplification of Highly Repetitive DNA Sequences
*A.L. Evans, D.L. Felder, J.E. Neigel

224 Modeler's Tool: An Algorithm for Teachers and Researchers
*R.F. Shaw

225 Mutation Rate: A Simple Concept Has Become Complex
*J.N. Thompson Jr., R.C. Woodruff

226 Population Genetic Structure of the *Begonia dregei* Complex Along the East Coast of South Africa
*L.O. Matolweni, T. McLellan, K. Balkwill

227 Sex Differences in Coalescent Times (A Theoretical Model)
*R.B. Campbell

228 Genetics and Evolution of the Mariner DNA Element in *Drosophila simulans*
*A.L. Russell, R.C. Woodruff

229 Within and Among-Population Size Homoplasy at a Microsatellite Locus in the Freshwater Snail *Bulinus truncatus* (Basommatophora: Planorbidae)
*F. Viard, M-P Dubois, P. Jarne

230 The Effects of Unidirectional Incompatibility Selection on Cytonuclear Disequilibria in Hybrid Zones
*R. Dean, J. Arnold

231 Estimates of Heritability of Male Effects on Female Oviposition in Two Populations of *Drosophila melanogaster*
*E. Guthrie, P. Service

232 Juvenile Hormone Esterase and the Evolution of Flightlessness in *Gryllus firmus*
*H. Yuan, A. Zera

233 Multivariate Evolution: An Island-Continent Model with Selection and Gene Flow
*A. Queral-Regil, R.B. King

234 Elongation Factor 1-Alpha Sequences Elucidate Phylogenetic Relationships Within the Swallowtail Butterfly Genus *Papilio* (Lepidoptera: Papilionidae).
*R.D. Reed, F.A.H. Sperling

235 Conflicting Phylogenetic Signals from a Single Molecular Data Set
*B.N. Campbell, P.T. Boag

236 Phylogeny of *Ips* Bark Beetles (Scolytidae) Based on Mitochondrial Cytochrome Oxidase I Sequence
*A.I. Cognato, F.A.H. Sperling

237 Population Structure and Intraspecific Phylogeny of the Flour Beetle, *Tribolium castneum*
*L.D. Roberts, P.T. Chippindale, N.A. Johnson

238 Evolution of Hawaiian Island and Insular Pacific *Pittosporum* (Pittosporaceae) Species as Estimated by Nuclear Ribosomal DNA Internal Transcribed Spacer Sequences
*C.E.C. Gemmill, W.L. Wagner, E.A. Zimmer

239 Phenetic and Phylogenetic Comparisons Between 5.8S Ribosomal DNA in Plant Parasitic Cyst Nematodes and *C. elegans*
*V.R. Ferris, J.M. Ferris, J. Faghihi

240 Phylogenetic History and Diversity of the Ant Genus *Gnamptogenys* in the New World
*J. Lattke

241 On Weighting and Congruence
*M.W. Allard

242 Semicongruence Between Phenetic and Cladistic Analysis in *Polymesoda* (Bivalvia: Corbiculidae): The Effect of Size Convergence.
*H. Severeyn, Y.G. De Severeyn

243 Phylogeography of the California Legless Lizard *Anniella pulchra*: Evidence for Parallel Evolution of the Nigra Phenotype from Cytochrome b Sequence Data
*D.E. Pearse, G. Pogson

244 Climatic Change and the Molecular Biogeography of Coleoptera
*R.A. Reiss

245 A New Polynomial Time Method for Inferring Trees Which Is Consistent and Has Great Statistical Power
P. Erdos, K. Rice, M. Steel, L. Szekely, *T. Warnow

246 Large-Scale Experimental Study of Different Phylogenetic Reconstruction Methods on Very Large Trees
*K. Rice, T. Warnow

247 Phylogeny of the *Terebellomorpha* and *Sabellida* (Annelida) and the Evolution of Larval Developmental Modes
*D. McHugh

248 Estimating Food Preference in the Eastern Gray Squirrel, *Sciurus carolinensis*
*E.L. Barthelmess

249 Stabilimenta and Prey Capture Success in *Argiope* (Araneae: Araneidae)
*T.A. Blackledge

250 Molecular Evolution of Duplicated Growth Hormone Genes in Salmonid Fishes
*S. Mckay, R. Devlin, M.J. Smith

251 Seed Number, Ethylene Production, and Sex Expression in *Cucurbita texana*
*G.A. Krupnick, A.G. Stephenson

252 Self-Sterility in Milkweeds: Distinguishing Between Late-Acting Self-Incompatibility and Inbreeding Depression
*S. Lipow

253 Inbreeding Depression in Autogamous and Outcrossing Populations of *Arenaria uniflora* (Caryophyllaceae)
*L. Fishman

254 Intra- and Interspecific Genetic Variation Among Groups of Freshwater Mussels in North Carolina: Implications for Conservation
*A.E. Stiven

255 Analysis of Genetic Diversity in the Western Mosquitofish, *Gambusia affinis*, Using Microsatellite DNA Techniques
*C.C. Spencer

256 The U.S. National Committee for the International Union of the Biological Sciences: A U.S. Voice for International Cooperation.
*T. Bert, B. Chernoff

257 Evidence of Positive Selection in the Mammalian Milk Protein Kappa-Casein
*T. Ward, R. Honeycutt, J.N. Derr

258 Conservation Genetics of *Tursiops truncatus*
*A.P. Rooney, D.B. Merritt, S.H. Ridgeway, J.N. Deer

259 Temporal and Spatial Variation in Hybridization Between Two Toads in Central Arizona
*K. Malmos, B. Sullivan

260 Problems in G-Protein Coupled Receptor Evolution
*L. Vawter, K. Rice

Macky Auditorium
8:00-9:00 Address by Professor E.O. Wilson:
Biodiversity

9:00-11:00 Social for E.O. Wilson (In Front of Macky)

Monday, 16th June

UMC Center Ballroom
8:00-12:00 Symposium 3 - Slightly Deleterious Mutations in Evolution
Organizers: Michael Nachman and Nancy Moran

8:00 265 Slightly Deleterious Mutations in Animal Mitochondrial DNA
*M. Nachman

8:15 266 Slightly Deleterious Mutations in Endosymbiotic Bacteria
*N. Moran

8:30 267 Evolution by Nearly Neutral Mutations
*T. Ohta

9:00 268 Deleterious Alleles in Populations with Fluctuating Sizes
*J. Gillespie

9:30 269 Mitochondrial DNA Mutations, Aging, and Degenerative Diseases
*M. Brown

10:00-10:30 Break

10:30 270 Decline of Fitness in two Panmictic Populations of *Drosophila melanogaster* Maintained under Relaxed Natural Selection
S.A. Shabalina, L.Y. Yampolsky, *A.S. Kondrashov

11:00 271 Natural Selection and the Population Genetics of "Silent" DNA Mutations in *Drosophila*
*H. Akashi

11:30 272 Deleterious Mutation Accumulation in the Mitochondrion
*M. Lynch

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JILA Auditorium
8:30-10:00 Session 29 - Life Histories and Development
Chair: Chi-hua Chiu

8:30 273 Body-Patterning Genes and the Evolution of Asexual Reproduction and Regeneration in Annelids
*A.E. Bely, G.A. Wray

8:45 274 Bet-Hedging and Sex Specific Differences in the Size at Phase Change in the Bluehead Wrasse, *Thalassoma bifasciatum*
*L. Rogers

9:00 275 Sexual Modes of Modular Animals: Gonochorism, Hermaphroditism, or Both at Once?
*K. Wasson

9:15 276 Genetics of Sex Determination in a Parasitoid Wasp
*A.K. Holloway, M.F. Antolin

9:30 277 What Controls the Timing of Ovarian Maturation in Larvally Reproductive Gall Midges (Insecta: Diptera: Cecidomyiidae): Parallelisms or Simple Convergence?
*J. Hodin, L. Riddiford

9:45 278 Spontaneous Facultative Parthenogenesis in Snakes
*G.W. Schuett, P.J. Fernandez, W.F. Gergits, D. Chiszar, H.M. Smith, J.B. Mitton

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Chemistry 140

8:30-10:00 Session 30 - Molecular Systematics
Chair: Jerome Reiger

8:30 279 The Scaling of the Phylogenetic Estimating Problem
*J. Kim

8:45 280 Comparison of Morphological and Molecular Divergence in the *Anopheles minimus* Complex of Malarial Mosquitoes from Thailand
*R. Sharpe, R. Butlin, R. Harbach

9:00 281 Phylogenetic Signal in the COI and 16S Mitochondrial Genes for Inference of Generic Relationships Among Microgastrine Parasitoid Wasps
*P. Mardulyn, J.B. Whitfield

9:15 282 Phylogeny of the Tachinid Family-Group (Diptera) Based on Mitochondrial DNA
*J.D. Wells, T. Pape, F.A.H. Sperling

9:30 283 Phylogenetic Characterization of Bacterial Endosymbionts of Adelgids and Psyllids (Hemiptera: Sternorrhyncha)
*A. Spaulding, C.D. Von Dohlen

9:45 284 Nuclear Genes for Arthropod Systematics
*J.C. Reiger, J.W. Schultz, C. Mitter

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CIRES Auditorium

8:30-10:00 Session 31 - Combined-Data Systematics
Chair: Barry Campbell

8:30 285 Morphology Versus Molecules in the Caribbean Boas.
*B.N. Campbell, P.T. Boag

8:45 286 Comparing and Combining Molecular and Morphological Data: Practical Approaches in the Anatini
*K.P. Johnson, M.D. Sorenson

9:00 287 Combined-Data Analysis Can Amplify Phylogenetic Signal: A Computer Simulation Study
*A.D. Yoder, T. Eriksson, M. Donoghue

9:15 288 Evolution of the Chiropteran Hindlimb: A Phylogenetic Perspective Based on a Combined-Data Analysis of Fossil and Extant Bats
*W.A. Schutt, Jr., J. Geisler, N.B. Simmons

9:30 289 Molecular Phylogenetics of the Carnivorans (Mammalia, Carnivora): Evidence from Intron I of the Transthyretin Gene
*M. Nedbal, J. Flynn

9:45 290

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Fine Arts N141

8:30-10:00 Session 32 - Biogeography
Chair: Cristina Miyaki

8:30 291 Biogeographic Constraints on Patterns of Colonization and Migration in *Melanochromis auratus* (Cichlidae) During the Most Recent Inundation of the South-Eastern Basin of Lake Malawi: An Analysis of Fine Scale Population Structure Using SSR Loci
*J. Markert, P. Danley, M. Arnegard, T. Kocher

8:45 292 Parrot Evolution and Paleogeographic Events: Mitochondrial DNA Evidences
*C.Y. Miyaki, S.R. Matioli, T. Burke, A. Wajntal

9:00 293 Mitochondrial DNA Control-Region Sequences Indicate a Sequential Range Expansion and Low Current Levels of Gene Flow Among European Populations of Common Chaffinches (*Fringilla coelebs*)
*H.D. Marshall, A.J. Baker

9:15 294 Role of the Columbia River Gorge in Shaping Ground Squirrel Phylogeography: Vicariance or Dispersal Barrier?
*G.J. Kenagy, F.X. Villablanca

9:30 295 MtDNA Variation in Stephen's Kangaroo Rat (*Dipodomys stephensi*): The Influence of Landforms
*A.E. Metcalf, L.P. Nunney, B.C. Hyman

9:45 296 Speciation and Phylogeography Within the Dusky Shrew (*Sorex monticolus*) Species Complex
*J.R. Demboski, J.A. Cook

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UMC Forum

8:30-10:00 Session 33 - Phylogenetic Methodology
Chair: Paul Lewis

8:30 297 Recovering Reticulation in Human Evolution: Trees, Nets, and Polynesian Languages
*R.D. Gray

8:45 298 Evolution of the Rate of Molecular Evolution
*J.L. Thorne, H. Kishino

9:00 299 The Consistency of Maximum Likelihood Estimation of Phylogenetic Trees from Nucleotide Sequences
*J.S. Rogers

9:15 300 Estimating Parameters of Mixed-Distribution Models of Among-Site Rate Variation in ML Phylogenetic Analysis Is Difficult, but Does It Matter?
*J. Sullivan, D.L. Swofford

9:30 301 Fast Algorithm for the Maximum Likelihood Method of Phylogenetic Reconstruction
*A. Rodin, W-H Li

9:45 302 A Genetic Algorithm for Inferring Phylogeny
*P. Lewis

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UMC 235

8:30-10:00 Session 34 - Behavior
Chair: Richard Prum

8:30 303 Phylogeny of the Frog Genus *Physalaemus* with Implications for Evolution of Call Types in the Group
*M. Holder, D. Cannatella, S. Rand, M. Ryan

8:45 304 The Sensory Basis of Background Color Matching in a Color-Polymorphic Treefrog: Implications for the Evolution of Assortative Mating Within an Interbreeding Population.
*W.H. Wente, J.B. Phillips

9:00 305 Why Birds of a Feather Should Flock Together
*C.W. Benkman, J. Smith, K. Coffey

9:15 306 Hormonal Correlates of Breeding Behavior in Female Eastern Bluebirds: Implications for Alternative Mating Strategies
*N. Buschhaus, P. Gowaty, J. Downhower, J. Harder

9:30 307 Phylogeny and Social Behavior Evolution of the *Cotingas* (Cotingidae: Aves).
*R.O. Prum

9:45 308 Unequal Partitioning of Reproductive and Investment Tasks Between Cooperating Queens in the Fire Ant, *Solenopsis invicta*, as Revealed by Microsatellites
*G. Bernasconi, M.J. Krieger, L. Keller

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UMC 158

8:30-10:00 Session 35 - Evolution of Sex and Recombination
Chair: Jack da Silva

8:30 309 Test of Synergistic Interactions Among Deleterious Mutations in Bacteria
*S.F. Elena, R.E. Lenski

8:45 310 Sex Facilitates Adaptation to a Changing Environment: An Experiment with *Chlamydomonas*
*J. da Silva

9:00 311 Embryonic Mortality in Parthenogenetic *Dugesia polychroa* (Plathelminthes; Tricladida). Evidence for Deleterious Mutations?
*M. Storhas, R.P. Weinzierl, N.K. Michiels

9:15 312 Virulence and Infectivity of Microsporidians in Sexual and Parthenogenetic Snails
*S.G. Johnson

9:30 313 Multiple B Chromosomes in a Parthenogenetic Hermaphrodite: Lineage Markers or Remnants of Genetic Leakage?
*T.F. Sharbel, L.W. Beukeboom, N.K. Michiels

9:45 314

10:00-10:30 Break

JILA Auditorium

10:30-12:00 Session 36 - Molecular Evolution
Chair: Ian Boussy

10:30 315 Evidence for Recent Selection on Codon Usage in *Drosophila*
*R.M. Kliman, A. Eyre-Walker

10:45 316 Molecular Evolution Is Not Male-Driven in *Drosophila melanogaster* And *D. simulans*
*V.L. Bauer, C.F. Aquadro

11:00 317 A Strand Bias to Non-Neutral Mitochondrial DNA Evolution: Evidence from the CytB and ND5 Genes in *Drosophila*
*L.M. Kann, D.M. Rand

11:15 318 The Hobo Transposable Element Invaded *Drosophila melanogaster* Twice
*I.A. Boussy, M. Itoh

11:30 319 Molecular Evolution of P Elements: Snail's Pace for a Jumping Gene?
*J.C. Silva, J. Clark, P.M. O'Grady, M.G. Kidwell

11:45 320 Molecular Evolution in Pheromone Systems in Moths: Pheromone Binding Proteins of the European Corn Borer (*Ostrinia nubilalis*)
*C.S. Willett

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CIRES Auditorium

10:30-12:00 Session 37 - Quantitative Genetics
Chair: Charles Fenster

10:30 321 Quantitative Genetic Analysis of Seed Dormancy, a Threshold Trait in *Collinsia verna* (Scrophulariaceae).
*D.A. Thiede, S. Kalisz, M. McPeek

10:45 322 The Role of Epistasis in Population Differentiation in *Chamaecrista fasciculata*: A Common Garden Experiment
*L.F. Galloway, C.B. Fenster

11:00 323 The Role of Epistasis in Population Differentiation of *Chamaecrista fasciculata*: A Natural Field Experiment.
*C.B. Fenster, L.F. Galloway

11:15 324 Components of Variance in an Experimentally Inbred Population of *Nemophila menziesii*
*D. Byers, F. Shaw, R. Shaw

11:30 325 Between Year Genetic Correlations in the Annual Plant, *Nemophila menziesii*
*R. Shaw, G.A.J. Platenkamp

11:45 326

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Chemistry 140

10:30-12:00 Session 38 - Molecular Systematics
Chair: James Danoff-Burg

10:30 327 Quantitative Phylogenetic Analysis of Life-History Evolution in the Bark Beetle Genus *Dendroctonus* (Coleoptera: Scolytidae).
*S.T. Kelley, B.D. Farrell

10:45 328 Phylogenesis of Host Use and Host Specialization in *Papaipema* (Lepidoptera: Noctuidae)
*P.Z. Goldstein

11:00 329 Phylogeny of Noctuoid Moths (Insecta: Lepidoptera) Inferred from Two Nuclear Genes, EF-1 Alpha and DDC
*A. Mitchell, Q.Q. Fang

11:15 330 Phylogeny of *Papilio* (Insecta: Lepidoptera)
*M.S. Caterino, F.A.H. Sperling

11:30 331 Utility of Nuclear 18S RDNA in Reconstructing Relationships Among Basal Beetles (Coleoptera: Polyphaga)
*J.A. Danoff-Burg

11:45 332 Evolution of Species-Rich Lineages: Cladogenesis, Biogeography and Sequence Variation in *Cicindela* Tiger Beetles
*A.P. Vogler, T.G. Barraclough, A. Diogo

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Fine Arts N141

10:30-12:00 Session 39 - Speciation and Cladogenesis
Chair: Jim Leebens-Mack

10:30 333 Host-Plant Dependent Tradeoffs in the Apple Maggot Fly, *Rhagoletis pomonella*: The Relationship Between Larval Emergence, Fruit Rot and Allozyme Loci.
*K. Filchak, J.L. Feder, J.B. Roethele, U. Stolz

10:45 334 Host-Plant Associated Fitness Tradeoffs in the Apple Maggot Fly, *Rhagoletis pomonella*: A Synopsis of the Past, and Perspective for the Future
*J.L. Feder, J.B. Roethele, K. Filchak, U. Stolz

11:00 335 Genomic Structure in the Apple Maggot Fly, *Rhagoletis pomonella*: Is Inversion Polymorphism Involved in Reducing Effective Gene Flow Between the Host Races?
*J.B. Roethele, J.L. Feder

11:15 336 Host Associations and Patterns of Diversification Among Yucca Moth Populations
*J. Leebans-Mack, O. Pellmyr

11:30 337 Reproductive Mode and Speciation: Why We Need Alternatives to the *Drosophila* Model System
*D.W. Zeh, J.A. Zeh

11:45 338 What Initiates Speciation in *Heliconius* Butterflies?
*C. Jiggins

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UMC Forum

10:30-12:00 Session 40 - Macroevolution
Chair: Richard Palmer

10:30 339 The Influence of Phylogenetic Scale in Determining Evolutionary Patterns
*P.A. Zani

10:45 340 Taxonomies and Temporal Patterns of Lineage Diversity: Alternative Simulations
*H. Robeck, C. Maley, M. Donoghue

11:00 341 Evolution and Development of Flower Symmetry in Asterid Angiosperms
*M. Donoghue, R. Ree, D. Baum

11:15 342 Alternative Evolutionary Routes to Fixed Bilateral Asymmetry: The Ontogenetic Role of Genotype Versus Environment
*A.R. Palmer

11:30 343 Juvenile Delinquency and Clandestine Variation in the Macroevolution of Heart Urchins
*G. Eble

11:45 344 Interpreting Sister-Group Tests of Key Innovation Hypotheses
*A. de Queiroz

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UMC 235

10:30-12:00 Session 41 - Geographic Variation and Hybrid Zones
Chair: Robert Latta

10:30 345 Microgeographic Patterns of CpDNA Introgression in *Carpobrotus* (Aizoaceae)
*V.V. Symonds, K.A. Schierenbeck

10:45 346 Influence of Historical and Contemporary Gene Flow Patterns on Geographic Variation in Ponderosa Pine
*R.G. Latta

11:00 347 The Historical Pattern of Gene Flow Among Migratory and Non-Migratory Populations of Prairie Warblers (Aves: Emberizidae)
*C.A. Buerkle

11:15 348 Inferring the Relative Influences of Drift and Gene Flow on Regional Population Structure Via Correlation Analyses
*D. Hutchison

11:30 349 What Type of Data Is Best for the Estimation of Migration Rate?
*P. Beerli

11:45 350 Non-Equilibrium Patterns of Genetic Differentiation Across Partial and Complete Gene Flow Boundaries
*A. Porter

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UMC 158

10:30-12:00 Session 42 - Evolution of Sex and Recombination
Chair: Shawn Meagher

10:30 351 The Effect of Sex on Fitness in Experimental Yeast Populations
*C. Zeyl

10:45 352 Evidence for a Cost of Sex in a Freshwater Snail *Potamopyrgus antipodarum*
*J. Jokela, C.M. Lively, M.F. Dybdahl, J.A. Fox

11:00 353 Fitness Effects of Facultative Parthenogenesis in the Cockroach, *Nauphoeta cinerea*
*L.S. Corley, A.J. Moore

11:15 354 Sex and the Single Worm: An Examination of the Utility of Outcrossing in the Partially Selfing Nematode, *Caenorhabditis elegans*
*A. Stewart, P.C. Phillips

11:30 355 Fitness Consequences of a Single Generation of Full-Sib Mating in Wild House Mice (*Mus domesticus*)
*S. Meagher, W. Potts

11:45 356 Parasitism, Mutation Accumulation and the Maintenance of Sex Under Epistatic Fitness Functions
S. Howard, *C.M. Lively

12:00-1:30 - Lunch

- ASN Business Meeting (12:30-1:30) - UMC 157

- UMC Forum
NIH Grants Workshop
I.A. Ekstrand (Genetics & Developmental Biology Division)

UMC Center Ballroom

1:30-5:00 Symposium 4 - Systematics and the Evolution of Developmental Patterns
Organizers: Billie J. Swalla and Andres Collazo

1:30 357 Systematics and Developmental Biology: A Future for Experimental Biology
*E. Zimmer

2:00 358 Morphological Homology and the Pharyngula Stage
*A. Collazo

2:30 359 Molecular Approaches to Understanding the Origin and Diversification of Echinoderm Body Architecture
*G.A. Wray

3:00-3:30 Break

3:30 360 Developmental Processes as Sources of Characters in Systematics
*R. Desalle

4:00 361 Developmental Regulatory Mechanisms and the Evolution of Arthropod Body Patterns
*S. Carroll

4:30 362 Evolution of the Chordate Body Plan: Lessons from the Urochordate Larvae
B.J. Swalla

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Fine Arts N141
1:30-3:00 Session 43 - Adaptation and Plasticity
Chair: Kenneth Halama

1:30 363 Adaptive Significance of Territoriality in the Australian Scincid Lizard, *Ctenotus fallens*
*W.B. Jennings

1:45 364 A Quantitative Study of Background Matching and Alternative Cryptic Defenses Among Populations of the Oregon Tiger Beetle (*Cicindela oregona*)
*T.D. Schultz

2:00 365 Testing Models of Habitat Selection in Ricefishes
*J. Albert

2:15 366 Morphological Correlates to Habitat Selection in Western Fence Lizards: Evidence for a Resource Polymorphism?
*K.J. Halama

2:30 367 Developmental Plasticity and the Ecology of Body Size in Two Seed Beetles
*C.W. Fox, U.M. Savalli

2:45 368 Genetic and Environmental Components of Differential Hostplant Use in a Specialist Herbivore (Coleoptera: Curculionidae)
*S.L. Solarz, R.M. Newman

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UMC 235
1:30-3:00 Session 44 - Molecular Evolution
Chair: Jonathan Eisen

1:30 369 Molecular Evolution of Colicin Gene Clusters in *E. coli*
*Y. Tan, M.A. Riley

1:45 370 Coalescent Approaches to Studying HIV Populations
*A. Rodrigo, G. Learn, J. Felsenstein, J. Mullins

2:00 371 Comparative Study of the Molecular Evolution of HIV-1 Epidemics: A Coalescent Approach
*G. Learn, A. Rodrigo, J. Mullins

2:15 372 Riodinid, Lycaenid And Nymphalid Butterflies: Different Rates of DNA Evolution?
D. Campbell

2:30 373 Evolution of DNA Repair Genes and Processes: Comparison of Repair in Bacteria, Archaea, and Eukaryotes.
*J.A. Eisen, P.C. Hanawalt

2:45 374

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Old Main Chapel

1:30-3:00 Session 45 - Ecological Genetics
Chair: William Etges

1:30 375 Inversion Phylogenies and Parallel Population Structures in Cactophilic *Drosophila mojavensis* and *D. pachea*.
*W.J. Etges, W.R. Johnson, G. Huckins, G.A. Duncan, W.B. Heed

1:45 376 The Effect of Queen Number on Queen and Colony Survivorship in the Facultatively Polygynous Ant *Myrmica tahoensis*
*J. Evans

2:00 377 A Micro-Evolutionary Study of the *Drosophila-Macrocheles* System: Fitness Consequences of Ectoparasitism and Heritability of Resistance
*M. Polak

2:15 378 Analysis of Paternity and Sperm Competition in Dungeness Crab (*Cancer magister*) Using Microsatellites
*P.C. Jensen, P. Bentzen

2:30 379 Factors Influencing Host Colonization by the Plant Virus BYDV
*S.K. Remold, A.G. Power

2:45 380

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JILA Auditorium

1:30-3:00 Session 46 - Population Genetics
Chair: David Rand

1:30 381 A Prototype Population Genetics Object Database for Animal MtDNA
*J. Neigel

1:45 382 New Software for Measuring Genetic Relatedness and Kinship Patterns in Populations
*K.F. Goodnight

2:00 383 Near Neutrality or Relaxed Selection?: Neutrality Tests of Amino Acid Polymorphism in Commensal and Non-Commensal Species
*D.M. Rand, L.M. Kann

2:15 384 Sex Linkage Among Genes Controlling Sexually-Selected Traits in Animals
*K. Reinhold

2:30 385 Inbreeding Effective Size: Comparisons Among Complex Life Histories
*B. Milligan, A. Strand

2:45 386 Testing Hypotheses About Heterosis Using Meta-Analysis
*D. Houle

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UMC 157

1:30-3:00 Session 47 - Quantitative Genetics
Chair: Susan Jacobs

1:30 387 Apparent Selection Inferred From Pleiotropic Effects of P-Element Insertions
*A. Clark

1:45 388 Quantitative Trait Loci for Fluctuating Asymmetry of Quasi-Continuous Skeletal Characters in Mice
*L.J. Leamy, E.J. Routman, J.M. Cheverud

2:00 389 Variation in Hox Gene Expression in Threespine Stickleback Fish.
D-G Ahn, *G. Gibson

2:15 390 Evolution of Mandibular Morphology Among Tamarins
*S.C. Jacobs, J.M. Cheverud

2:30 391 Composite Traits and the G Matrix: Does Ontogeny Matter?
*J. Reeve

2:45 392 Patterns of Quantitative Trait Variation in *Daphnia arenata*
*M. Pfrender

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Chemistry 140

1:30-3:00 Session 48 - Molecular Systematics
Chair: Kevin Omland

1:30 393 Population Structure and Glacial Refugia Inferred from MtDNA Control Region Sequences in the Song Sparrow
*A.J. Fry, R.M. Zink

1:45 394 Sexual Selection, Hybridization, and Phylogenetics in the Avian Genus *Manacus*
*R.T. Brumfield, M.J. Braun

2:00 395 MtDNA Sequence Phylogeny for Orioles (*Icterus*): A Framework for Studying Plumage Evolution
*K.E. Omland, S.M. Lanyon

2:15 396 Phylogenetic Relationships and the Evolution of Migration in the Avian Genus *Muscisaxicola*
*R.T. Chesser

2:30 397 Birds and Amazonian Headwaters: Molecular Evidence of Genetic Structure
*J. Bates, J. Haffer

2:45 398 Evolutionary Relationships of the Hawaiian Hawk and Phylogeny of the Genus *Buteo*
*R.C. Fleischer, P. Cordero, C. McIntosh

Ramaley C250

1:30-3:00 Session 49 - Plant Mating/Breeding Systems
Chair: David Carr

1:30 399 The Genetic Basis of Inbreeding Depression in Two Species of *Mimulus* with Contrasting Mating -Systems
*D.E. Carr, M.R. Dudash

1:45 400 How Much Inbreeding Depression in *Mimulus guttatus* Is Caused by Mutations of Large Effect?
*J.H. Willis

2:00 401 Evolutionary Implications of Stigma Closure in *Mimulus aurantiacus*
*A.E. Fetscher

2:15 402 Sexual Variation in a Highly Clonal Plant, *Decodon verticillatus* (Lythraceae)
*M. Dorken, C.G. Eckert

2:30 403 The Mixed Mating System of the Chestnut Blight Fungus, *Cryphonectria parasitica*
*R.E. Marra, M.G. Milgroom

2:45 404 Among-Family Differences in Inbreeding Depression in Gynodioecious *Lobelia siphilitica*
*P. Mutikainen, L. Delph

3:00-3:30 Break

UMC 235

3:30-5:00 Session 50 - Molecular Evolution
Chair: Dennis Powers

3:30 405 Natural Selection of the Ldh-B Promoter and Coding Region Within and Between Populations of the Teleost, *Fundulus heteroclitus*
*D.A. Powers, P. Schulte

3:45 406 Directed Selection on Ldh-B Proximal Promoter
*D.L. Crawford

4:00 407 Molecular Evolution in an Alternating Environment
*W.D. Crill, J.J. Bull, A. Gulati

4:15 408 Redundancy, Pleiotropy, and the Shape of Multigene Family Evolution
*M. Ronshaugen, A. Martin

4:30 409 Correlated Evolution in Proteins
*D. Pollock, W. Taylor

4:45 410 Phylogenetic Signal and Structural Constraints on the Evolution of Protein-Coding Genes
*C. Griffiths

Fine Arts N141

3:30-5:15 Session 51 - Phylogenetic Methodology
Chair: Michel Milinkovitch

3:30 412 Problems with the Interpretation of Partial Warps as Biological Variables
*F.J. Rohlf

3:45 413 Why Morphometrics Isn't Special: Coding Quantitative Data for Phylogenetic Analysis
*D.L. Swiderski, M.L. Zelditch, W.L. Fink

4:00 414 Are Morphometics and Phylogenetics Incommensurable
*M.L. Zelditch, W.L. Fink, D.L. Swiderski

4:15 415 Phylogenetic Analysis of Interspecific Polymorphism in Higher-Level Terminal Taxa
*J.J. Wiens

4:30 416 Matrix Representation as a Means of Combining Phylogenetic Information
*O.R.P. Bininda-Emonds, H.N. Bryant

4:45 417 Analytical Developments Help to Solve the Whale Phylogeny Controversy
*M.C. Milinkovitch

5:00 418 Allozyme Data and Phylogenetic Analysis: A Comparison of Coding Methods
*M.J. Mahoney

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Old Main Chapel

3:30-5:00 Session 52 - Coevolution
Chair: Dieter Ebert

3:30 419 Host-Parasite Interactions and Local Adaptation of Two Microparasites of *Daphnia magna*
*D. Ebert

3:45 420 Parasite Host-Range Evolution: Experimental Analyses of Host-Specific Adaptation and Host-Switching
*A. Gemmill

4:00 421 A Population Genetic Model for a Host-Pathogen System
*M.S. Sanchez, M. Asmussen, J. Arnold

4:15 422 Evolution of Host Range in Nematodes Parasitizing *Drosophila*
J. Jaenike, *S. Perlman

4:30 423 Differential Susceptibility to Parasitism in Two Populations of Pea Aphids
*R.A. Hufbauer, S. Via

4:45 424 Evolution of Expanded Host Range in Wild Viruses by Recombination Between Strains
*G.P. Krukonis, F.M. Cohan

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JILA Auditorium

3:30-5:00 Session 53 - Population Genetics
Chair: Michael Purugganan

3:30 426 Temporal Changes in Allele Frequencies in Two Directionally Selected Maize Populations
*J.A. Labate, K.R. Lamkey, M. Lee

3:45 427 Genetic Variation at the CAULIFLOWER Locus, an *Arabidopsis* Floral Homeotic Gene
*M. Purugganan, J. Suddith

4:00 428 The Effective Size of an Age-Structured Population that Reproduces Partially by Selfing
*E. Pollak

4:15 429 DNA Sequence Variation at Glb1: No Evidence of a Bottleneck Associated with the Domestication of Maize
*H. Hilton, B. Gaut

4:30 430 Quantitative and Molecular Population Genetics at Enzyme Loci In *Arabis fecunda* and *A. lyrata*
*J-Z Lin, T. Mitchell-Olds

4:45 431 Disentangling Pollen from Seed Dispersal: Molecular Genetics of *Aquilegia*
*A. Strand, B. Milligan

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Chemistry 140
3:30-5:15 Session 54 - Molecular Systematics
Chair: Steve O'Kane

3:30 433 Phylogeny of the Family Bignoniacee Based on CpDNA Sequences of RbcL and NdhF
*R.E. Spangler, R.G. Olmstead

3:45 434 Molecular Evolution and Systematic Implications of Two Non-Coding Chloroplast DNA Regions in Cyperaceae Tribe Cariceae.
*A.C. Yen, R.G. Olmstead

4:00 435 Phylogenetic Utility of the Nuclear Gene Vicilin in Sterculiaceae
*B.A. Whitlock, D.A. Baum

4:15 436 Testing Assumptions About Sequence Evolution: Implications for Parsimony Analysis
*R.G. Olmstead, P. Reeves, A. Yen

4:30 437 Phylogeny of Apioideae (Apiaceae): A Comparison of Chloroplast Restriction Site Data to DNA Sequence Data
*G.M. Plunkett, S.R. Downie

4:45 438 A Molecular Systematic Examination of *Lesquerella* and *Physaria* (Brassicaceae)
*S.L. O'Kane, Jr.

5:00 439 Phylogenetic History of *Narcissus* L. (Amaryllidaceae) Based on the Chloroplast Gene NdhF
*S.W. Graham, S.C.H. Barrett

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UMC 157
3:30-5:15 Session 55 - Biogeography
Chair: Townsend Peterson

3:30 440 Intraspecific Phylogeography Across the Pt. Conception Biogeographic Boundary
*R.S. Burton

3:45 441 Breaching of the Eastern Pacific Barrier by Genes of the Sea Urchin *Echinothrix*
*H.A. Lessios, B.D. Kessing

4:00 442 Independent Invasions of Fresh Water: Analysis of the Phylogeny and Physiology of a Cosmopolitan Copepod
*Carol Eunmi Lee

4:15 443 Speciation, Gene Flow and Allopatric Divergence in Australian *Daphnia*
*C. Wilson, P.D.N. Hebert, J. Colbourne

4:30 444 When Distributional Models Fail: Mirroring History, Ecology, and Speciation
*A.T. Peterson, S.L. Egbert, J. Soberón-Mainero

4:45 445 Phylogeography of the American pika (Lagomorpha)
*K. Agnew

5:00 446 Transatlantic Flight: Systematics and Biogeography of the Locust Genus *Schistocerca*
*N.R. Lovejoy, R.G. Harrison, R.F. Chapman, G.A. Sword

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Ramaley C250

3:30-5:15 Session 56 - Plant Mating/Breeding Systems
Chair: Mikkel Heide

3:30 447 Evolution of Self-Fertilization in Perennials
*M.T. Morgan, D.J. Schoen, T.M. Batailliou

3:45 448 Pollination and Late-Acting Self-Incompatibility in *Apocynum cannabinum*
*S. Lipow

4:00 449 Evolutionary Dynamics of Sporophytic Self-Incompatibility Alleles in Plants
*M.H. Schierup, X. Vekemans, F.B. Christiansen

4:15 450 The Evolution of Autogamy in *Arenaria uniflora* (Caryophyllaceae): Reproductive Insurance Against Interspecific Pollination?
*L. Fishman, R. Wyatt

4:30 451 Pollen Transfer Dynamics and the Evolution of Gametophytic Self-Incompatibility
*J. Steinbachs, K. Holsinger

4:45 452 Implications of Selfing and Inbreeding Depression for Plant Colonization of Marginal Habitats
*R. Sherry, C. Galen

5:00 453 Mixed Mating, Gene Flow, and Founder Effects in the Native Hawaiian Colonizer *Odontosoria chinensis* (Lindsaeaceae)
*T.A. Ranker, C.E.C. Gemmill, P.G. Trapp

UNC East Ballroom

4:30-6:00 Poster Session 2

454 A Test for Gene Conversion and Its Application to HLA Polymorphism
*T. Wiehe, J. Mountain

455 Long Term Evolutionary Dynamics of Gene Substitutions in Populations Undergoing Darwinian Selection
*D.A. Vasco

457 Evolution of Reaction Norms: Genotype-Environment Interactions Across Three Light Environments in a Natural Population of *Collinsia verna*
*B.B. Black, S. Kalisz

458 Density Dependent Selection in *Arabidopsis thaliana*
*L. Strong, L. Dorn, J. Schmitt

459 Are Genetic Differences in Response to Gibberellic Acid in *Impatiens capenisis* Linked to the Shade Avoidance Response?
*S. McGee, K. Donohue, M.S. Heschel, J. Schmitt

460 Phenotypic Selection on Maximal Aerobic Metabolism of High Altitude Deer Mice
*J.P. Hayes, C.S. O'Conor

461 Phenotypic Responses to Group Selection on Population Size in a Poeciliid Fish
*C. Baer

462 Does Pleiotropy or Selection Explain Ubiquitous Colicin Resistance in Natural Populations of *Escherichia coli*?
*M. Feldgarden, M.A. Riley

463 Individual Variation in Reproductive Performance in Plants: Effects of Herbivory
*J. Leverich

464 Environmental Influence on the Expression of a Body-Patterning Gene in Sea Urchins
*L. Issel-Tarver, C. Lowe, G. Wray

465 The Ontogeny of Sexual Dimorphism in Some Chironomids (Diptera: Chironomidae)
*J.K. Cooper

466 Virulence and Transmission of a Digenetic Trematode (*Echinostoma caproni*) Infecting a Molluscan Intermediate Host (*Biomphalaria glabrata*)
*A.L. Graham

467 The Evolution of Sexual Dimorphism in Neotropical Moths
*D.A. Wiggins, D.H. Janzen

468 A Model for Understanding Sexual Role Reversal Based on Bateman's Principle
*P.D. Lorch

469 A Model of the Interaction Between "Good Genes" and Material Benefits
*L.F. Bussiere

470 Reinforcement of Threespine Stickleback Mate Choice: Sympatry Breeds Contempt
*H.D. Rundle, D. Schluter

471 Adaptation and Speciation in *Neochlamisus* Leaf Beetles: An Integrated Approach
*D.J. Funk

472 A Different Tempo of Mitochondrial Evolution in Birds and Their Parasitic Lice
R.D.M. Page, P.L.M. Lee, S.A. Becher, R. Griffiths, *D.H. Clayton

473 Documenting the History of the Speciation of *Rhagoletis pomonella* and *R. zephyria* (Diptera: Tephritidae)
*J. Smith, G. Bush

474 Niche Differentiation Across the Big Sagebrush Hybrid Zone in Utah
*H. Wang

475 An Integrative Phylogenetic Approach to the Evolution of Body Size in the *Anolis roquet* Group of the Southern Lesser Antilles, West Indies
*N. Giannasi, R.S. Thorpe, A. Malhotra

476 Gene Flow Between Chromosomal Races of House Mice Inferred from Microsatellite Alleles
*C.J. Hanus, M.W. Nachman

477 Molecular Evolution of Enzyme Loci in the Plant Genus *Leavenworthia*
*F. Liu, D. Charlesworth, L. Zhang

478 A Mosaic Hybrid Zone Between Grasshoppers of the Biguttulus Group of *Chorthippus* in Northern Spain
*J. Bridle, R. Bailey, R. Butlin, C. Thomas

479 Conservative Evolution of Olfactory Receptor Genes Expressed in Mammalian Testis
A. Branscomb, *J. Seger

480 Sequence Variation in Nuclear Introns Studied Using SSCP Analysis
*B.C. Congdon, D.A. Harrison, M.G. Kidd, V.L. Friesen

481 Rapid Copy Number Evolution of the Sex-Determining Gene, Sry, in New World Rodents (Genus *Akodon*)
*H.E. Hoekstra, S.V. Edwards

482 Conservation of Both Molecular and Developmental Aspects of TGF-Beta Signaling Between *Drosophila* and Vertebrates
*R.G. Wisotzkey, C.E. Dohrmann, X. Liu, L.A. Raftery

483 Gamma-Globin Gene Evolution and Expression in New World Monkeys (Platyrrhini, Primates)
*C-H Chiu, M. Goodman

484 Heterosis in the Earthworm *Eisenia fetida andrei*: Effects of Coarse-Grained Environmental Heterogeneity
*T.C. McElroy, W.J. Diehl

485 Heterosis in the Earthworm *Eisenia fetida andrei*: Effects of Fine-Grained Environmental Heterogeneity
*W.J. Diehl, D.E. Hart

486 VNTRs, IBMs, RATS and RAM: A Spatially Explicit Model of Gene Flow in Fragmented Landscapes
*C.E. Jordan, E.K. Steinberg

487 Intergenomic Coadaptation: Coevolution of Nuclear and Mitochondrial Genes Involved in Cytochrome C Oxidation and COX Activity
*P.D. Rawson, R.S. Burton

488 The Community-Level Implications of Plastic Invaders
*L. Hartt

489 Interspecific Competition Between *Hetagonvstilum minense* and *Cotesia flavipes*, Parasitoids of Sugercane Borer
*E. Weir, L. Sagarzazu

490 Frequency and Distribution of t-Haplotypes in the House Mice (*M. m. castaneus*) in Taiwan
*S-W Huang, K.G. Ardlie, F-H Yew, H-T Yu

491 Genetic Variation in the Grass Shrimp *Palaemonetes paludosus* from the Florida Everglades
*A. Quinones, J. Trexler, T. Turner

493 Phylogeny of the Selaginellaceae and Variation in the Chloroplast Gene RbcL
*P. Korall, P. Kenrick

494 Molecular Population Genetics of G6PD in Humans
*S.M. Peterson, M.W. Nachman

495 MHC Sequence Variation in the Northern Elephant Seal from the Southern California Channel Islands
*D. Weber, B. Stewart, N. Lehman

496 Genetic Basis of Plasticity for Flowering Date in *Arabidopsis*
*D. Stratton

497 Quantitative Genetics and the Persistence of Environmental Effects in Clonally Propagated Organisms
*K. Schwaegerle

498 Software for the Analysis of Covariance Matrices and Quantitative Genetic Data Using Resampling Methods
*P.C. Phillips

499 Molecular Systematics of the Old World Monkeys (Cercopithecidae): Evidence from Gamma-Globin Nucleotide Sequences
*S.L. Page, C-H Chiu, M. Goodman

500 Apparent Rates of Morphological Evolution and Genotype-Environment Interactions in the Mediterranean Fruit Fly, *Ceratitis capitata*, in Hawaii
*D. Foote

501 Molecular Phylogeny of *Gryllus* spp. Based on Cytochrome B and Nuclear rDNA Sequences
*M. Sutherlin, R. Bromley, H. Yuan, A. Duhachek, D. Siegel-Causey, A. Zera

502 Phylogeny of the Ophionoid Subfamilies (Insecta: Hymenoptera: Ichneumonidae) Inferred from Mitochondrial DNA Sequences
*K.I. Suh, J.B. Whitfield

503 Ribosomal RNA and Phylogeny of the Ascaridoidea (Nemata: Secernentea)
*S.A. Nadler, D.S.S. Hudspeth

504 Recent Radiation of New Zealand Alpine Cicadas (*Maoricicada*)
T. Buckley, P. Arensburger, *G. Chambers, C. Simon

505 Molecular Systematics of *Lipotyphla* Using 12S rRNA and NADH2 Sequences
*G.L. Emerson, M.W. Allard

506 A Cladistic Analysis of Hemichordate Morphology
*C.B. Cameron

507 Phylogeny of the Lower Brachycera (Insecta: Diptera): Combined and Separate Analyses of Multiple Datasets
*B.M. Wiegmann, D. Yeates, S-C Tsaur

508 Phylogeny of Scaphopoda Inferred from Morphological and COI MtDNA Sequence Data
*P. Reynolds

509 Phylogeography of *Nesotes conformis* as Revealed by MtDNA Cytochrome Oxidase II Sequence Data
*D.J. Rees, B.C. Emerson, P. Oromi, G.M. Hewitt

510 Phylogeography of the Sagebrush Lizard, *Sceloporus graciosus*, in California: Preliminary Results from a Combined Data Set.
*L.J. Frabotta

511 How to Validate Phylogenetic Trees? A Stepwise Procedure
*F-J Lapointe

512 Deep Phylogenetic Splits in Neotropical Vertebrate Taxa?
S.C. Lougheed, *A.A. Chek, P.T. Boag, P. Handford, J.P. Bogart

513 Ecological Correlates of Reproductive Success in the Burying Beetle, *Nicrophorus investigator*
*R.J. Smith

514 Evolutionary Patterns and Correlates of Venom Variation in Hawaiian *Tetragnatha* (Araneae)
*G. Binford

515 Maternal Effects in Urchins: Vitellogenin Gene Expression and Developmental Mode
*J. Villinski, E. Popodi, M. Byrne, R. Raff

516 Evolution of the Reproductive System of *Erythroxylum havanense*, a Heterostylous Plant
*C.A. Dominguez, L. Eguiarte

517 Timing Is Everything: Pollination and Stigma Receptivity in *Silene latifolia*
*H. Young, L. Gravitz

518 Maintenance of Male Sterility in Gynodioecious Populations of *Geranium richardsonii*
*C. Williams

519 Conservation Genetics of the Threatened Freshwater Mussel, *Margaritifera hembeli*
*J.P. Curole, K. Brown, D. Foltz

520 The Genetic Impacts of Tropical Forest Fragmentation on Plant Mating Patterns and Population Structure
*M. Hamilton

521 Partial Sequence of a Demosponge Mitochondrial Genome
*R.F. Watkins

522 Kin Selection and Dynamic Optimization in Evolutionary Biology
*T. Day, P.D. Taylor

523 Population Structure of the Vector of Bird Malaria in Hawaii, *Culex quinquefasciatus*: Preliminary Data from Microsatellite and MtDNA Variation
*D.M. Fonseca, C.T. Atkinson, R.C. Fleischer

6:00-7:45 Barbecue - (Williams Village)

Macky Auditorium
8:00-9:00 ASN Presidental Address:
The Ecology of Informational Advantage: Transforming Natural History into an Economic View of Evolution
*G. Vermeij

Tuesday, 17th June

UMC Center Ballroom
8:30-11:30 Symposium 5 - ASN Young Investigators Symposium
Organizer: Tim Wootton

8:30 529 Estimating Genomic Mutation Parameters in Natural Populations
*H-W Deng

9:00 530 Quantitative Trait Evolution in Partially Self-Fertilizing Populations
*J. Kelly

9:30 531 Some Implications of Direct Positive Interactions for Community Species Diversity
*S. Hacker

10:00-10:30 Break

10:30 532 Beetle Development Limits Male Horn Evolution: Perturbation Experiments Reveal Allocation Tradeoffs Between Horns and Eyes
*D.J. Emlen

11:00 533 The Genetics of Inbreeding Depression: Implications for Conservation
*L. Pray

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UMC 157
8:30-10:00 Session 57 - Evolutionary Theory
Chair: Daphne Fairbairn

8:30 535 The macroevolutionary consequences of sexual conflict in the water strider genus *Rheumatobates* (Heteroptera: Gerridae)
*K. Westlake

8:45 536 A Model of the Effects of Gene Flow on Reinforcement
*M. Servedio, M. Kirkpatrick

9:00 537 The Evolution and Adaptive Significance of Sexual Size Dimorphism in the Water Strider, *Aquarius remigis*
*D. Fairbairn, R. Preziosi, J. Reeve

9:15 538 Multi-Locus Data, Migration, and Hybrid Zones
*M.E. Orive, N.H. Barton

9:30 539 Niche Evolution in "Black-Hole" Sink Populations Maintained by Recurrent Immigration
*R. Gomulkiewicz, R.D. Holt, M. Barfield

9:45 540 The Maintenance of Genetic Variance in a Subdivided Population
*M. Whitlock

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UMC 235

8:30-10:00 Session 58 - Life Histories and Development
Chair: Anthony Zera

8:30 541 Fitness Consequences of Overwintering: The Cost of Diapause in the Pitcher-Plant Mosquito, *Wyeomyia smithii*
*W.E. Bradshaw, P.A. Armbruster, C.M. Holzapfel

8:45 542 Physiology of Life-History Trade-Offs: Characterization of a Hormonally-Induced Life-History Trade-Off in *Gryllus assimilis*
*A.J. Zera

9:00 543 On the Virtue of Being the First Born: The Influence of Date of Birth on Components of Fitness in the Mosquitofish, *Gambusia affinis*
*D. Reznick, E. Schultz, S. Morey

9:15 544 Fitness Consequences of Alternative Life Histories in Tiger Salamanders
*H. Whiteman

9:30 545 Physiologically Structured, Individual Based Models, Genetic Algorithms and Tradeoffs Between Offspring Size and Number
*P.H. Niewiarowski, A.E. Dunham

9:45 546 Potential Adaptive Variation in the Sex-Ratio of the Least Killifish, *Heterandria formosa*
*J. Leips, J. Travis

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UMC Forum

8:30-10:00 Session 59 - Sexual Selection
Chair: David Haskell

8:30 547 Color Polymorphism in the Bioluminescent Click Beetle, *Pyrophorus plagiophthalamus*: Measures of Spectral Emission and Absorbance
*U. Stolz, J.L. Feder, K. Filchak

8:45 548 Genetic Basis of Female Mate Preferences in an Ultrasonic Moth (*Achroia grisella*, Pyralidae, Lepidoptera)
*Y. Jang, M. Greenfield

9:00 549 Evolution of Sexual Dichromatism in Birds: The Roles of Carotenoid- Versus Melanin-Based Plumage Coloration
*A. Badyaev, G. Hill

9:15 550 The Darwin-Wallace Debate Revisited: Can Natural Selection on Female Plumage Color Explain Interspecific Variation in Avian Sexual Dichromatism?
*D. Haskell

9:30 551 Dimorphic Males in an Amphipod: Do Juveniles with High Growth Rates Choose to Be Minors?
*J.P. Kurdziel, J.S. Levinton

9:45 552 Evolution of Novel Wing Morphology for Sound Production by Sexual Selection in *Machaeropterus* (Aves)
*K.S. Bostwick, R.O. Prum

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JILA Auditorium

8:30-10:00 Session 60 - Molecular Evolution
Chair: Frank Cipriano

8:30 553 Microsatellites in Genus *Apodemus* with Implications to Multiple Paternity and Evolution of Repeat Flanking Sequences
*K.D. Makova, J.C. Patton, R.K. Chesser, R.J. Baker

8:45 554 6000 Miles Across the Pacific: Microsatellite and MtDNA Variation in Dolphins from Peru and New Zealand
*F. Cipriano, K. Ingram, S.R. Palumbi

9:00 555 A Test for Heterogeneity of Levels of Microsatellite Variation
*J.K. Pritchard

9:15 556 Fast Approximate Likelihood Calculations for Microsatellites, Mostly Within Species
*J. Felsenstein, P. Beerli

9:30 557 Microbial Microsatellites: Genome Structure, Stability and Evolution
*D. Field, C. Wills

9:45 558 Tests for Selection at MtDNA Loci in Natural Populations of Western Minnow (Genus *Gila*)
*A.S. Gerber, C.A. Tibbetts, T.E. Dowling

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Chemistry 140

8:30-10:00 Session 61 - Molecular Systematics
Chair: Doug Eernisse

8:30 559 Mitochondrial DNA Evolution in North American Bufonids
*A.M. Goebel

8:45 560 Molecular Systematics and Biogeography of Caribbean Rock Iguanas (*Cyclura*)
*C.L. Malone, T. Wheeler, J.F. Taylor, S.K. Davis

9:00 561 Molecular Systematics of the *Anolis* Lizards of the Southern Lesser Antilles
*D. Creer, K. de Queiroz, T. Jackman, J. Losos, A. Larson

9:15 562 Phylogenetic Relationships Among Phrynosomatid Sand Lizards as Inferred from Mitochondrial DNA Sequences
*J. Wilgenbusch, K. de Queiroz

9:30 563 A Molecular Analysis of Chelicerate Head Development and Arthropod Phylogeny
M.J. Telford, *R.H. Thomas

9:45 564 Why Have Previous 18S rRNA Analyses Not Found a Monophyletic Mollusca?
*D.J. Eernisse

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CIRES Auditorium

8:30-10:00 Session 62 - Macroevolution
Chair: Brian Farrell

8:30 565 A Critical Evaluation of the Reality of the Cambrian Explosion Based on 18S rRNA Data
E. Abouheif, R. Zardoya, *A. Meyer

8:45 566 Modeling the Cambrian Explosion: Recovering Trees Successfully from Simulated Sequence Data
*J. Levinton, L. Dubb, J. Felsenstein, G. Wray

9:00 567 K-T Mass Extinction, Explosive Paleocene Diversification, and Cenozoic Diversity Equilibrium in Mammals: The Fossil Record Says Yes
*J. Alroy

9:15 568 Haldane's Conundrum Explained: Why There Are so Many Beetles
*B.D. Farrell

9:30 569 Morphological Evolution of the Fishes of the Genus *Bryconops* (Teleostei: Characidae)
*B. Chernoff, A. Machado-Allison

9:45 570 Adaptive Radiation in Spiders: The Role of Key Innovation in the Orb Weaving Clade
*J.E. Bond, B.D. Opell

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Fine Arts N141

8:30-10:00 Session 63 - Behavior
Chair: Hugh Dingle

8:30 571 The Association of Activity Level, Burst Speed, and Caudal Morphology with Vulnerability to Predation in Two Species of Salamanders
*C.S. Wells, R.N. Harris, S.K. Babcock

8:45 572 Pathogen Transmission as a Selective Force Against Cannibalism
*D. Pfennig

9:00 573 Evolved Migration Syndromes: Migration Is Not Dispersal and Vice-Versa
*H. Dingle

9:15 574 A Theoretical Analysis of Costly Signaling Among Relatives
*C.T. Bergstrom, M. Lachmann

9:30 575 Maternal Effects on Offspring Fitness in the Strawberry Arrow Poison Frog, *Dendrobates pumilio*
*M. Maple

9:45 576 Correlates of Relatedness in the Western Harvester Ant, *Pogonomyrmex occidentalis*
*B.J. Cole, D.C. Wiernasz

10:00-10:30 Break

UMC 157
10:30-12:00 Session 64 - Adaptation and Plasticity
Chair: Leonard Nunney

10:30 577 Local Adaptation Despite Plasticity in a Marine Invertebrate
*D. Brumbaugh

10:45 578 Maternal Death Relaxes Developmental Inhibition in Nymphal Aphid Defenders
*J.H. Withgott, D.K. Abbot, N.A. Moran

11:00 579 The Effect of Temperature on Fecundity in Female *Drosophila melanogaster*: Evidence for Adaptive Plasticity
*L. Nunney

11:15 580 Host Specificity and Mode of Transmission: Their Role in Parasitic Nematode Speciation
*S.N. Bennett, M.L. Adamson

11:30 581 When Do Specialists and Generalists Evolve? Insights from Experiments with *Chlamydomonas*
*R. Kassen, G. Bell

11:45 582 Diet- and Temperature-Induced Norms of Reaction for Size and Age in Grasshoppers
*D.B. Thompson

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UMC 235
10:30-12:00 Session 65 - Life Histories and Adaptation
Chair: Steven Orzack

10:30 583 Demographic Effects of Size and Inter-Colony Fusion in a Reef Coral
*D.B. Carlon

10:45 584 Foundations of Gregariousness: A Dispersal Polyphenism Among the Larvae of a Marine Invertebrate
*R.J. Toonen, J.R. Pawlik

11:00 585 Bateman's Principle and Gamete Evolution in Sperm-Limited Sea Urchins
*D.R. Levitan

11:15 586 Reproductive Effort in Variable Environments or Environmental Variation Is for the Birds
*S. Orzack, S. Tuljapurkar

11:30 587 Divergence in Life History and Architecture Between Grazed and Ungrazed Populations of *Silene gallica*
*D.S. Posner, M.L. Stanton

11:45 588 Size Variation in Reproductives and Reproductive Allocation in the Western Harvester Ant, *Pogonomyrmex occidentalis*
*D.C. Wiernasz, B.J. Cole

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UMC Forum
10:30-12:00 Session 66 - Sexual Selection
Chair: Daniel Promislow

10:30 589 Sexual Selection in the Western Harvester Ant, *Pogonomyrmex occidentalis*
*A.J. Abell, B.J. Cole, D.C. Wiernasz

10:45 590 Sexual Selection and the Fitness Consequences of Male Body Size in a Seed Beetle
*U. Savalli, C. Fox

11:00 591 Sexual Differences in Response to Larval Food Stress in Katydids: Do Females Conserve Characters Important to Sexual Competition? (Orthoptera: Tettigoniidae)
*D. Gwynne

11:15 592 Fitness Consequences of Sexual Selection in *Drosophila*: Artificial Selection Experiments
*D. Promislow, L. Pearse

11:30 593 Effects of Sex Ratio Manipulation on Female Fitness in *Drosophila melanogaster*
*K.A. McKean

11:45 594 Sperm Transfer and Copulation Duration in *Drosophila silvestris* and *Drosophila heteroneura*
*M. DeAngelis

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JILA Auditorium
10:30-12:00 Session 67 - Molecular Evolution
Chair: Brandon Gaut

10:30 595 Molecular Evolution and Expression of Anthocyanin Multigene Families in *Ipomoea purpurea* (Morning Glory)
*B.C. McCaig, M.L. Durbin, M.T. Clegg

10:45 596 Molecular Evolution of C1, a Regulatory Gene in the Anthocyanin Pathway, in the Grass Family
*V.M. Oberholzer, M.T. Clegg

11:00 597 DNA Sequence Evidence for the Segmental Allotetraploid Origin of Maize
*B.S. Gaut, J.F. Doebley

11:15 598 Molecular Evolution of Three Noncoding Regions in Angiosperms
*E. Friar, J.M. Porter

11:30 599 Evolution of Orthologous and Homoeologous Nuclear Sequences from Diploid and Allopolyploid Cottons
*R. Cronn, J.F. Wendel

11:45 600 Evolution in Group II Introns in Chloroplasts as Shown by the Rpl16 Intron
*S. Dickie, S. Kelchner, R. Wallace, J. Wendel

CIRES Auditorium

10:30-12:00 Session 68 - Ecological Genetics
Chair: Michael Turelli

10:30 601 Changing Genetic Structure of a Bur Oak Savannah: Microsatellite Analysis of Adults and Saplings
*M.V. Ashley, B.D. Dow

10:45 602 Complex Inheritance of Plant Size and Fitness in *Ipomoea purpurea* (Common Morning Glory)
*R. Miller, D. Higdon, M. Rausher, E. Simms

11:00 603 Protected Polymorphism for Flower Color in *Linanthus parryae*: Wright Sings the Blues
*M. Turelli

11:15 604 Genetic Constraints: An Experimental Approach Using Induced Mutations in *Arabidopsis thaliana*
*M.D. Camara, N. Turner, M. Pigliucci

11:30 605 Fingerprint-Based Spatial Genetic Tests for Isolation by Distance and Local Adaptation in the Coastal Plant *Limonium carolinianum*
*M. Hamilton

11:45 606

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Chemistry 140

10:30-12:00 Session 69 - Molecular Systematics
Chair: Carey Krajewski

10:30 607 Improved Resolution of Crane Phylogeny from Combined Cytochrome b and ND6 Sequences
*M. Fain, C. Krajewski

10:45 608 Molecular Systematics and Evolution of the Honeyeaters (Passeriformes: Meliphagidae)
*A.C. Driskell

11:00 609 Multigene Analysis of Phylogeny Within Dasyurid Marsupials
*C. Krajewski, M. Westerman

11:15 610 Comparisons of MtDNA Gene Regions in Resolving Avian Species Relationships
*G. Voelker, S.V. Edwards

11:30 611 A Multiple Gene Perspective on the Phylogeny of the Avian Genus *Tachyphonus*
*K.J. Burns

11:45 612 Fibrinogen Introns and Avian Systematics
*S. Hackett, F.K. Barker, E. Grismer

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Fine Arts N141

10:30-12:00 Session 70 - Conservation Genetics
Chair: Laura Lundquist

10:30	613	Patterns of Geographic Genetic Differentiation and Lack of Inbreeding Depression in a Rare Perennial *D. Leeper, T. Mitchell-Olds
10:45	614	Genetic Consequences of Extensive Clonality in the Endangered Shrub *Haloragodendron lucasii* *M. Sydes, R. Peakall
11:00	615	The Role of Genetic Variation in Stress Tolerance and Population Persistence: An Experimental Study with *Brassica rapa* *C.A. Wise, Y.B. Linhart, T. Ranker
11:15	616	Extraordinary Genetic Variation in a Narrow Endemic Annual Plant Species *N.J. Ferguson, N.C. Ellstrand, R Whitkus
11:30	617	
11:45	618	

12:00-1:30 - Lunch

- SSB Business Meeting (12:30-1:30) - UMC 157

- UMC Forum
NSF Population Biology: Open Discussion - The role of model organisms in research in population biology
L. Lyons & M. Courtney (Population Biology)

Chemistry 140

1:30-5:00 Symposium 6 - Know Thyself: Evolution of Self-Recognition Systems
Organizers: Georgiana May and Xavier Vekemans

1:30	619	Population Genetics and Genealogical Properties of Self-Recognition Systems *X. Vekemans
2:00	620	Allelic Genealogy and Its Application to HLA DNA Sequence Data *N. Takahata
2:30	621	Evolutionary Process and the Structure of Genealogies among Self-Incompatibility Alleles in Flowering Plants *M. Uyenoyama
3:00-3:30		Break
3:30	622	Evolution in the Extreme: Variation at Fungal Mating Loci *G. May
4:00	623	The Spawning Game: Evolution of Gamete Recognition Loci in Free-Spawning Marine Species *S. Palumbi
4:30	624	Sequence Divergence of Mating Incompatibility Genes at the Population Level *A. Richman

UMC 157

1:30-3:00 Session 71 - Hybridization and Sexual Isolation
Chair: Daniel Howard

1:30 625 The Effect of DNA Sequence Divergence on Sexual Isolation in Bacteria
*J. Majewski, F. Cohan

1:45 626 Reproductive Isolation and Divergence of Gamete Recognition Proteins Between Allopatric Versus Sympatric Species of Tropical Sea Urchins.
*M.A. McCartney

2:00 627 Conspecific Sperm Precedence Is an Effective Barrier To Hybridization Between Closely Related Species
*D.J. Howard, P.G. Gregory, J. Chu

2:15 628 Courtship Song & Sexual Isolation in *Drosophila pseudoobscura* and *D. persimilis*
*M.A.F. Noor, C.F. Aquadro

2:30 629 Haldane's Rule in the Fruit Fly *Anastrepha*: Why so Different from *Drosophila*?
*P. Dos Santos, S.R. Matioli

2:45 630 Head Width, a Sexually Selected Trait in *Drosophila heteroneura*, Is Not Used by Females in Species Recognition
*C.R.B. Boake, D.K. Andreadis

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UMC 235

1:30-5:00 Session 72 - Adaptation and Plasticity
Chair: Mark Belk

1:30 631 Predator Induced Temporary Colour Changes in Tadpoles of the European Waterfrog (*Rana esculenta*)
*C. Rauter

1:45 632 Morphological Evolution of Utah Chub, *Gila Atraria*, in Populations with and Without Predation from Cutthroat Trout, *Oncorhynchus clarki*
*M.C. Belk, M.A. Nannini, C.Walser, J.B. Johnson

2:00 633 Evidence For Phenotypic Selection on Escape Performance in Natural Populations of Guppies
*A.J. Cullum, A.F. Bennett

2:15 634 Can Predation History or Locomotor Phenotype Predict Predator Avoidance Success? An Experimental Test Among Guppy (*Poecilia reticulata*) Populations of Trinidad
*S. O'Steen, A.F. Bennett

2:30 635 Ontogenetic Reaction Norms: Predator Induced Morphological Shape Change in a Dragonfly Larva
*F. Johansson

2:45 636 Why Be a Generalist? Insights from a Lycaenid Butterfly with Multiple Ant Associates
*A.M. Fraser

JILA Auditorium

1:30-3:00 Session 73 - Population Genetics
Chair: Craig Moritz

1:30 637 Segregating Sites in Wright's Island Model
*J.R. Wakeley

1:45 638 Molecular Population Genetics of the Cane Toad (*Bufo marinus*)
*C. Moritz

2:00 639 Effects of Variable Population Size and Heterogenous Mutation Rate on Estimation of Population Genetic Parameters
*D.A. Vasco, H-W Deng, X-X Fu

2:15 640 Tracking Geographic Variation in Cave Swallows (*Hirundo fulva*) Using Microsatellites
*J.J. Kirchman

2:30 641 Polymorphism and Divergence at Mitochondrial Genes in South American Rodents
*P. Kennedy, M.W. Nachman

2:45 642 Gene Flow in the Squid, *Loligo pealei*, in the Atlantic Ocean and the Northern Gulf of Mexico
*S.W. Herke, D.W. Foltz

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Old Main Chapel

1:30-3:00 Session 74 - Molecular Systematics
Chair: Ken Halanych

1:30 643 Issues and Answers in the Molecular Phylogeny of the Crustacea
*T. Spears, L.G. Abele

1:45 644 Vestimentiferan and Pogonophoran Origins Based on Nuclear Ribosomal Genes; An Assessment of Phylogenetic Signal.
*K.M. Halanych, R.C. Vrijenhoek

2:00 645 Phylogenetic Relationships Within the Anthozoa (Phylum Cnidaria) as Inferred from 18S rDNA Sequences Obtained from Recent Specimens and Historical Museum Collections
*E.A. Berntson, F.M. Bayer

2:15 646 Molecular Diversity of Zooxanthellae in Octocorals
*T.L. Goulet, M.A. Coffroth

2:30 647 A New Hypothesis for the Evolution of Scleractinian Corals Based on Mitochondrial 16S and Nuclear 28S Ribosomal RNA
*S.L. Romano

2:45 648 Use of Ribosomal ITS Sequences to Resolve Intrageneric Relationships in the Soft Coral Genus *Alcyonium*
*C.S. McFadden

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Ramaley C250

1:30-3:00 Session 75 - Combined-Data Systematics
Chair: Bradley Shaffer

1:30 649 Between Scylla and *Caryopteris*: Struggling with the Linnaean Strait Jacket
*P.D. Cantino, R.G. Olmstead, S.J. Wagstaff

1:45 650 Tests of Turtle Phylogeny: The Effect of Fossils on Phylogenetic Stability
*H.B. Shaffer, P. Meylan, M.L. McKnight

2:00 651 Does Total Evidence Reweave or Unravel the Avian "Tapestry"? 1. Morphology Versus Molecules
*P. Beresford, J. Cracraft

2:15 652 Does Total Evidence Reweave or Unravel the Avian "Tapestry"? 2. Morphology and Molecules
*J. Cracraft, S. Stanley, P. Beresford, A. Espinosa, J. Feinstein

2:30 653 Bird Vocalizations as Phylogenetic Characters: A Heron Example
K.G. McCracken, *F.H. Sheldon

2:45 654 Expected Divergence Times Within Crocodylia from Molecules and Fossils: Conflict and Congruence
*C. Brochu

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UMC 158
1:30-3:00 Session 76 - Comparative Method
Chair: David Ackerly

1:30 655 *Phrynosoma* Morphology and Diet: Re-Evaluating the Relationship Using Independent Contrasts.
*W.L. Hodges

1:45 656 Ontogeny and Phylogeny in Swordtail Fishes: Understanding Growth Patterns in a Phylogenetic Context.
*J.M. Marcus, A. McCure

2:00 657 Prey Capture Thread Stickiness and the Evolution of Orb Weaving Spiders: A Comparative Approach
*B.D. Opell

2:15 658 Phylogenetic Tests of Natural Selection Using Catostomid Gill Rakers
*P. Willink

2:30 659 Community Assembly and Comparative Methods
*D. Ackerly

2:45 660 Increasing Statistical Complexity in Comparative Studies: Is It Always Worth It?
*E. Abouheif

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UMC Forum
1:30-3:00 Session 77 - Conservation Genetics
Chair: Francis Villablanca

1:30 661 Genetic Identity of the Invasive Ruffe *Gymnocephalus cernuus* (Teleostei: Percidae) in the Great Lakes: DNA Sequence Evidence for a Southern European Origin and a "Cryptic" Species
*C.A. Stepien, A.K. Dillon

1:45 662 Microsatellites, Allozymes and Conservation Genetics of the White Sands Pupfish
*C.A. Stockwell, M. Mulvey, A.G. Jones

2:00 663 Reproductive Success of Captively-Reared, Naturally Spawning Coho Salmon
*L. Park, B. Berejikian, J. Hard, E. Lahood

2:15 664 Assessing the Utility of Genetic Markers as Indicators of Habitat Fragmentation: Lessons from Real and Virtual Pocket Gophers
*E. Steinberg, C. Jordan

2:30 665 Paraphyletic Clades and the Conservation Genetics of Black-Footed Ferrets
*F. Villablanca

2:45 666 Can Molecular Genetics Assist Species Recovery Programmes? Arabian Oryx as a Case Study
*T. Marshall

3:00-3:30 Break

UMC 235
3:30-5:15 Session 78 - Adaptation and Plasticity
Chair: John Graham

3:30 667 Why Is There Not a Positive Relationship Between Phenotypic Plasticity and Environmental Variability? A Test of Three Hypotheses
*G. Davidowitz

3:45 668 A Theory of Developmental Stability
*J.H. Graham, D.C. Freeman, J.M. Emlen

4:00 669 A Selection Model for Plasticity in Coarse-Grained Environments in Its Simplest Form
*P.H. van Tienderen

4:15 670 Experimental Analyses of Selection on Wing Size and Wing Loading in Pierid Butterflies
*J. Kingsolver, R. Srygley

4:30 671 Effects of Stressful Larval Environment on Adult Phenotype in an Aposematic Ladybird Beetle
*C.P. Grill, A.J. Moore

4:45 672 Geographic Variation and Phenotypic Plasticity in Shell Shape Within the Pulmonate Pond Snail Genus *Physella*: Implications for Classification of Extant and Fossil Mollusca
*C.A. Burnside, R.F. McMahon

5:00 673 Factors of Safety in the Structure of Crab Claws; Variation Among Six Parasympatric *Cancer* Species of the Pacific Northwest
*G.M. Taylor, A.R. Palmer, A. Barton

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UMC 157
3:30-5:15 Session 79 - Molecular Evolution
Chair: Laura Katz

3:30 674 Local Clocks Between Snapping Shrimps in Different Ecological Environments
*C.L. Morrison, L.G. Abele

3:45 675 Rate Heterogeneity in MtDNA 16S rRNA Genes in the Genus *Centropomus* and Evolutionary Divergence Between Its Transisthmian Species-Pairs
*M.D. Tringali, T.M. Bert

4:00 676 Comparative Genomics of Extreme Microbes
*R. Feldman, G. Olsen, E. Delong, C. Woese, R. Swanson

4:15 677 Isocitrate Dehydrogenase and Carboxylesterase: Two Extreme Cases of Gene Evolution
*A. Nekrutenko, J.C. Patton, R.D. Bradley, R.J. Baker

4:30 678 Phylogenetic Analyses and Chromosomal Mapping of the CXC Chemokine Subfamily
*W.S. Modi, A. Chidambaram, T.L. Chen, T. Yoshimura

4:45 679 The Importin Gene in Ciliates: New Perspectives on the Evolution of an Important Protein
*L.A. Katz

5:00 680 Modular Evolution of Spider Silk Genes
*C.Y. Hayashi

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JILA Auditorium

3:30-5:15 Session 80 - Ecological Genetics
Chair: Michael Antolin

3:30 681 Small Scale Genetic Variation in Marine Mussels: Evidence for Selection?
*D. Heath

3:45 682 Phylogeography of MtDNA Sequences in Barred Owls (Aves: Strigidae)
*G.F. Barrowclough, J.G. Groth

4:00 683 Microsatellite and MtDNA Analyses of a Highly Polymorphic Cichlid Species, *Cichlasoma citrinellum*
*K. Noack, A. Meyer

4:15 684 The Melding of Demographics and Genetics in the Townsend's Ground Squirrel
*M.F. Antolin, B. Van Horne

4:30 685 Microstratigraphic Variation and Selection in Fossil Stickleback Fish
D.M. Blow, *M.A. Bell

4:45 686 Extinction, Persistence, and Evolutionary Change in Response to Environmental Stress in the Pitcher-Plant Mosquito, *Wyeomyia smithii*
*P. Armbruster, A. Steiner, W.E. Bradshaw, C.M. Holzapfel

5:00 687 Balancing Selection at the Mpi Locus in *Semibalanus balanoides*
*P. Schmidt, D. Rand

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Old Main Chapel

3:30-5:15 Session 81 - Molecular Systematics
Chair: Roberta Mason-Gamer

3:30 688 Phylogenetics of Subtribe Orchidinae (Orchidoideae, Orchidaceae) Based on Nuclear ITS Sequences and Polyphyly of *Orchis* s.l.
*A.M. Pridgeon, R.M. Bateman, A.V. Cox, M.W. Chase

3:45 689 Chromosome and Genome Size Evolution in the Slipper Orchids (Cypripedioideae: Orchidaceae)
*A.V. Cox, G.J. Abdelnour, M.D. Bennett, I.J. Leitch

4:00 690 Phylogenetic Relationships Within Orchidaceae as Inferred From RbcL and MatK Sequence Data
*P. Kores, J. Freudenstein, K. Cameron, M. Chase, M. Molvray, D. Goldman, M. Whitten, D. Jarrell

4:15 691 Saprophytism in Orchidaceae: Origins and Character Evolution
*M. Molvray, P. Kores, K. Cameron, J. Freudenstein, M. Chase

4:30 692 A Revolutionary View of the Parasitic Scrophulariaceae/Orobanchaceae
*N.D. Young, K.E. Steiner, C.W. DePamphilis

4:45 693 Addition of Nuclear Starch-Synthase Gene Sequences to the Ongoing Phylogenetic Analysis of the Triticeae (Poaceae).
*R.J. Mason-Gamer, E.A. Kellogg

5:00 694 Neighboring Base Composition and Substitution Rate in Chloroplast Genes
*B.R. Morton

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UMC Forum

3:30-5:15 Session 82 - Conservation Genetics
Chair: Suzanne Edmands

3:30 695 Implied Population Structure for the Bornean Orangutan
*C. Muir, A.T. Beckenbach

3:45 696 Genetic Mechanisms Underlying Outbreeding Effects in an Intertidal Copepod
*S. Edmands

4:00 697 MtDNA and Microsatellite Data Suggest a Recent Origin for Pacific Swordfish Populations out of the Atlantic
*C. Reeb, B. Block, L. Arcangeli

4:15 698 Genetic Monitoring in the Restoration of Endangered Chinook Salmon in the Snake River Basin
*P. Moran, D.A. Dightman, R.S. Waples, L.K. Park

4:30 699 Extinction through Hybridization: A Simulation Study
*D.E. Wolf, L.H. Rieseberg

4:45 700 Patterns Of Genetic Diversity in Rare and Widespread Plant Congeners: Do Rare Species Have Low Genetic Variability?
*M.A. Gitzendanner, P.S. Soltis

5:00 701 Analysis of Populations of an Endangered *Clematis* and an Endangered *Sencio* Using Molecular Marker and Sequence Data
*R. Bellsey, D. Mount

UMC 158

3:30-5:15 Session 83 - Plant/Animal Interactions
Chair: Duncan Mackay

3:30 702 Consequences to the Reproductive Fitness of Predatory Wasps from Consuming Chemically Defended Caterpillar Prey.
*L.S. Rayor

3:45 703 Phylogenetic Analysis of Host-Use Evolution in Agromyzidae (Diptera): Evidence from DNA Sequence Data
*S.J. Scheffer, B.M. Wiegmann

4:00 704 Evolution of Host Plant Use in Leaf Beetles (*Phratora* sp.)
*N. Rank, A. Koepf

4:15 705 Macroevolutionary Chemical Trends in Host Plant Use by *Blepharida* (Chrysomelidae) Beetles
*J.X. Becerra

4:30 706 Geographic Variation in Dispersal and Seed Characteristics of an Australian Euphorb
*D. Mackay, M. Whalen

4:45 707 Inter- and Intra-Seasonal Variation in Effective Pollinators of Swamp Milkweed (*Asclepias incarnata*)
*C.T. Ivey, R. Wyatt

5:00 708 The Costs and Benefits of Sequestering Plant Toxins in North American and Finnish Nymphalid Butterflies.
*M.D. Camara, N. Turner, M. Pigliucci

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Ramaley C250

3:30-5:15 Session 84 - Evolution of Sex and Recombination
Chair: Rosie Redfield

3:30 709 Evolution of RecA Homologs in Deep-Branching Eukaryotes: Implications for the Origin of Meiosis
*J.M. Logsdon, Jr., W.F. Doolittle

3:45 710 The Hotspot Paradox and the Evolution of Meiotic Crossing Over
A. Boulton, R.S. Myers, *R.J. Redfield

4:00 711 Add Sex and Stir: On the Evolution of Recombination and Meiosis
*D. Gessler

4:15 712 Sequence Variation Within and Between the Neo-X and Neo-Y Chromosomes of *Drosophila americana*, Implications for Sex Chromosome Evolution
*B. McAllister

4:30 713 The Evolution of Sex Ratio Diversity in *Neochlamisus* Leaf Beetles
*D.J. Funk, L.H. Shapiro

4:45 714 Sequence and Karyotype Evolution of Obligately Parthenogenetic Aphids (Tribe Tramini)
*B. Normark

5:00 715 Red Queen Coevolution: Differential Infection of Common Snail Clones in Natural and Experimental Populations
*M. Dybdahl, C. Lively

UMC East Ballroom

4:30-6:30 Poster Session 3

716 Logistic Regression for Statistical Analyses of Multivariate Selection
*F. Janzen, H. Stern

717 Regulation of Transposable DNA Elements in Heterochromatin: The P Element of *Drosophila melanogaster*
*B.S. Haller, R.C. Woodruff

718 Rapid Evolution and Genetic Instability Coupled Via Clustered Mutations
*H. Huai, R.C. Woodruff

719 Physiological Mechanisms of Evolved Urea Resistance in *D. melanogaster*
*V. Pierce, A. Gibbs

720 Evolution of Water Balance in the Genus *Drosophila*
*A. Gibbs, L. Matzkin

721 Experimental Evolution of an Essential Transgene: A Role for Single Mutations of Large Effect?
*W.D. Crill

722 A Quantitative Genetic Model for the Maintenance of Predator-Induced Polymorphism
*W. Hazel, R. Smock

724 Sudden Evolution in the Soapberry Bug: Distinguishing Selective Pathways
*S. Carroll, H. Dingle

725 Molecular Evidence for Sympatric Divergence in Madeiran Storm Petrels (*Oceanodroma castro*)
*V. Lodha

726 Suites of Life History Traits (Growth Trajectories, Maturation Patterns, Asymptotic Sizes) in Guppies from Different Predation Regimes
*F.H. Rodd, J.A. Stamps, D.N. Reznick

727 The Functional Matrix and Evolutionary Innovations in Bats
*R.A. Adams, S.C. Pedersen

728 Interpretation of Developmental Ossification Patterns in Teleost Fishes
*P. Mabee, C. Cubbage

729 Know Thy Self or Know Thy Kin: Crossfostering Reverses MHC Mating Preferences
D. Penn, *W. Potts

730 The Evolution of Sterile Spermatophores in the Hawaiian Cricket *Laupala cerasina*
*K.L. Shaw, A.H. Khine

732 *Synodontis multipunctatus* - The Cuckoo Catfish from Lake Tanganyika
*A. Cruz, S. Pawlowski, C. Wilks

733 Peripheral Speciation in Indo-West Pacific Sea-Urchins
*L.B. Geyer, S.R. Palumbi

734 Molecular Phylogeny and Historical Biogeography of the South American Genus *Austrofundulus*
*T. Hrbek, J.E. Thomerson, A. Larson

735 Gene Flow in the Killifish *Fundulus heteroclitus*
*K.A. Callicott, D.A. Powers

736 A Genomic Parasite (B Chromosome) and an Ectoparasite (Mite) Decrease Female Fertility in a Grasshopper
*J.P.M. Camacho, E. Muñoz, F. Perfectii

737 The KNOTTED Family of Angiosperm Homeodomain Proteins--Origin and Evolution
*G. Bharathan, B-J Janssen, E.A. Kellogg, N. Sinha

738 Reshaping the Zootype: Cnidarians and the Evolution of the Hox Clusters
*D. Martinez, D. Bridge, K. Kuhn, P. Cartwright

739 A Molecular Phylogeny of New-World Jays Based on Mitochondrial Control Region
*M.A. Saunders, S.V. Edwards

740 A Phylogeny for Isoptera
*S. Kambhampati

741 Evolution of HOM-C Complex in Arthropods
*A. Abzhanov, T.C. Kaufman, A. Popadic

742 Substitution Processes and the Molecular Clock
*S. Schrodi, J. Gillespie, R. Hudson

743 Variation at Homologous Microsatellite Loci in Three *Poecilia* (Poeciliidae) Species
*J.S. Taylor, F. Breden

744 Identification of Polymorphic Microsatellites in Baboons Using Human PCR Primers, and Construction of a Baboon Genetic Map
*P.A. Morin, C.M. Kammerer, J. Rogers

745 Impact of Insularization on Genetic Variation Among Deer Mice (*Peromyscus maniculatus*) Populations
*P-A Landry, F-J Lapointe

746 Local Coadaptation Between Lupines and Bradyrhizobia
*E.L. Simms, L. Gades, A. Pringle

747 Local Genetic Structure Of *Sagittaria isoetiformis* (Alismataceae) Along an Environmental Gradient
*A.L. Edwards, R.R. Sharitz

748 Patterns of Extra-Pair Paternity in Multiple Broods of the Tree Swallow
*T.M. Rooneem, R.J. Robertson, C. Crossman, P.T. Boag

749 Ecological Strategies of Invading Ants in Hawaii
*K. Ingram

750 Genetic Structure Across a Univoltine and Bivoltine Gradient in the Mud-Daubing Wasp, *Trypoxylon politum*
*S.A. Chien, H.J. Brockmann

751 Microsatellite Genotypes in the Four-Toed Salamander (Caudata: Plethodontidae)
*I. Knight, R.N. Harris

752 Effects of Geographic Isolation on Genetic Diversity in the Western Pond Turtle, *Clemmys marmorata*: A Study Based on Microsatellites
*C.M. Ingram

753 Comparisons of Rough-Winged Swallow Populations Using Mitochondrial DNA Sequences
*M.J. Babin

754 Mitochondrial DNA Diversity of the Modern, Cosmopolitan Peoples of Mexico
*L. Green, J. Derr, A. Knight

755 Hollywood Medfly: Alien or Resident at $P < 0.05$?
*G. Roderick, F. Villablanca, N. Davies, S. Palumbi

756 Population Structure of *Strongylocentrotus purpuratus*: Genetic Analysis of Recruits and Young of the Year
*P.E. Moberg, R.S. Burton

757 Detecting Recent Immigration Using Multilocus Genotypes
*J.L. Mountain, B. Rannala

758 Mutation Accumulation for Chemosensory Behavior in the Nematode, *Caenorhabditis elegans*
J. Morphew, *P.C. Phillips

759 Preponderance of Mildly Deleterious Mutations Affecting Male Fertility in Long-Term Mutation Accumulation Lines of *Drosophila melanogaster*
*J.D. Fry, T.F.C. Mackay

760 Methods for Estimating Phenological Assortative Mating, with an Application to Australian *Ranunculus* Species
*G.A. Fox, C.M. Pickering

761 Phylogenesis of Host Range in Heliothine Moths (Insecta: Lepidoptera: Noctuidae)
S. Cho, *C. Mitter, J. Reiger

762 Phylogenetic Relationships Among Megapode Birds (Megapodiidae): Preliminary Results from Non-Coding Nuclear DNA Sequences
*S.M. Birks, S.V. Edwards

763 Morphological Evolution and Biogeography in Pines Using Phylogenetic Evidence from ITS Sequences and Restriction-Site Variation
*G. Mendez-Cardenas, A. Castañeda, S. Ortiz-Garcia, A. Liston, E. Alvarez-Buylla, D. Piñero

764 Phylogenetic Relationships of Eastern North American *Phlox* L. (Polemoniaceae) Based on Molecular Data: Evidence for Hybrid Speciation?
*C.J. Ferguson, R.K. Jansen

765 Microsatellite Variation Across Three Species of Non-Domestic Felids
*C. Driscoll, S. O'Brien

766 Molecular Systematics of the Myriapods
*J. Shultz, J. Reiger

767 Testing Hypotheses of the Evolution of the Genus *Kikihia* (New Zealand Cicadas)
*P. Arensburger, C. Simon, T. Buckley, G. Chambers

768 Phylogenetic Position of the Lithodidae (Crustacea: Decapoda: Anomura: Paguroidea) Using Early Ontogenetic Characters
*S. Zaklan

770 Global Diversity of the Cool Desert Green Alga *Bracteacoccus*
*L.A. Lewis

771 Molecular and Fossil Evidence on an Early Divergence of Neotropical Pygmy Squirrels
*V.L. Roth, M.H. Kim, J.M. Mercer

772 Evolution in Tetraploid Plant Populations
R.D. Overath, *M.A. Asmussen

773 A Cladistic Biogeography of *Gleditsia* Based on NdhF and Rpl16 Chloroplast Gene Sequences
*A. Schnabel, J.F. Wendel

775 Ordinal Relationships and Character Evolution in Holothuroidea (Echinodermata)
*A.M. Kerr

776 The Association of Nest Material and Mandible Shape: A Morphometric Comparison
*N.M. Williams, K. Goodell

777 De Novo Evolution of Sense Organs Mediating a Postural Reflex in Flies
*C. Gilbert, R. Edgecomb

778 A Phylogenetic Analysis of Tent Caterpillar Social Evolution (Lasiocampidae: *Malacosoma* spp.)
*J.T. Costa

779 Initial Estimates of Inbreeding Depression in Rapid Cycling *Brassica rapa*
*P.V. Mandrekar, D.M. Waller

780 Geitonogamous Selfing Balancing the Effect of Herkogamy in *Ipomoea purpurea*
*S-M Chang

781 Association Between Floral Traits and Inbreeding Depression in *Gilia achilleifolia* (Polemoniaceae)
*N. Takebayashi

782 Natural Selection and Genetic Constraints on the Evolution of Tolerance to Herbivory in the Common Morning Glory, *Ipomoea purpurea*
*P. Tiffin

783 Sex Ratio Bias and Recombination in a Neo-Y Chromosome in the Housefly (*Musca domestica*)
*M.E. Clark, E.H. Bryant

784 Isolation and Initial Characterization of Clones from the W and Z Chromosomes in Birds
*N.W. Kahn, T.W. Quinn

785 Molecules, Morphology and Movement: Transcontinental Mitochondrial Analysis of Sage Grouse Includes a Morphologically and Behaviorally Unique Newly Described Species
*T.W. Quinn, C.E. Braun, J.R. Young, N.W. Kahn

786 Developmental Anomaly in Bristle Formation in Interspecific Hybrid of *Drosophila*
*T. Takano

Williams Village Darley Commons 103
5:30-6:30 ASN/SSB/SSE Coordinating Council Meeting

UMC Center Ballroom
6:00-7:45 Banquet

Macky Auditorium
8:00-9:00 SSB Presidential Address:
A frog he would a-wooing go
*Jay M. Savage

Wednesday, 18th June

CIRES Auditorium
8:30-10:00 Session 85 - Adaptation and Plasticity
Chair: Pamela Diggle

8:30 791 Competition, Photomorphogenesis and Fitness
*C. Weinig

8:45 792 Patterns of *Danthonia spicata* (Poaceae) Reproductive Allocation in Relation to Environmental Heterogeneity
*M. McCormick, K. Gross

9:00 793 Phenotypic Plasticity and Constraints of Inflorescence Architecture in *Arabidopsis thaliana*
*P. Diggle

9:15 794 The Labile Evolution of Epigyny in *Lithophragma* (Saxifragaceae)
*R.K. Kuzoff, L. Hufford, D.E. Soltis

9:30 795 Genotype-Environment Interaction and Natural Selection in Field Populations of *Arabidopsis*
*B. Stranger, T. Mitchell-Olds

9:45 796 Patterns of Phenotypic Plasticity in *Clarkia* (Onagraceae): Allopolyploids and Their Diploid Relatives
*J.J. Butler, C.D. Schlichting

UMC 157

8:30-10:00 Session 86 - Life Histories and Development
Chair: Robert Krebs

8:30 797 Evolutionary Constraints on Thermotolerance Across the Life Cycle of *Drosophila melanogaster*
*R.A. Krebs

8:45 798 Evolution of the First Step in Development: Axis Specification in Nematode Embryos
*B. Goldstein

9:00 799 Heterochrony in the Evolution of Pigment Patterns in Fishes of the Genus *Danio* (Teleostei: Cyprinidae)?
*M. McClure

9:15 800 Genetic Variation of Senescence Reaction Norms Among Populations
*J.L. Dudycha

9:30 801 Limbs: An Embryonic Innovation in Direct-Developing Anurans
*T.F. Carl, J. Hanken

9:45 802 Molecular Phylogenetic Analysis of Life History Evolution in Asterinid Starfish
*M.W. Hart, M. Byrne, M.J. Smith

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UMC 235

8:30-10:00 Session 87 - Hybridization and Sexual Isolation
Chair: Michael Wade

8:30 803 Hybrid Fitness in the Louisiana Irises: Evidence from Experimental Analyses
*J.M. Burke, S.E. Carney, M.L. Arnold

8:45 804 Are Hybridizing Acacias Adapted to Soil Type?
*A. Hempel, J.M. Burke, M.L. Arnold

9:00 805 A Putative Case of Very Rapid Hybrid Speciation in Sunflowers (*Helianthus*)
*S.E. Carney, L.H. Rieseberg

9:15 806 Pollen Swamping and Hybridization by an Introduced Plant (*Spartina alterniflora*) Threaten an Endemic Cordgrass (*Spartina foliosa*)
*C.K. Anttila, C.C. Daehler, N.E. Rank, D.R. Strong

9:30 807 Crop to Weed Gene Flow?
*N. Ellstrand

9:45 808 Gene Interactions and the Origin of Species
*M. Wade

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Fine Arts N141

8:30-10:00 Session 88 - Molecular Evolution
Chair: Ronald Adkins

8:30 809 Molecular Evolutionary Biology of Pax Genes -- Implications for Eye Evolution
*H. Sun, A. Rodin, Y-H Zhou, D. Dickinson, W-H Li

8:45 810 Variation at the Human Melanocyte Stimulating Hormone Receptor Locus -- Possible Role in Human Skin Pigmentation Variation
*B. Rana, D. Hewett-Emmett, W-H Li

9:00 811 Molecular Evolutionary Genetics of Primate Color Vision
*W-H Li, S-K Shyue, Y-H Zhou, S. Boissinot

9:15 812 Structural and Functional Coevolution of Human Growth Hormone and Its Receptor
*R.M. Adkins, W-H Li

9:30 813 The Evolution of Visual Pigment Genes in Butterflies (Lepidoptera)
*A. Briscoe

9:45 814 The Evolution of Codon Bias at the PsbA Locus of Flowering Plants
*B.R. Morton

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UMC Forum

8:30-10:00 Session 89 - Population Genetics
Chair: Michael Nachman

8:30 815 Silencing of Duplicate-Gene Expression in a Highly Selfing Polyploid Freshwater Snail
*T. Staedler

8:45 816 Determinants of Microsatellite Evolution in *Drosophila melanogaster*
*M.D. Schug, C.F. Aquadro

9:00 817 Molecular Population Genetics of the Y Chromosome in *Drosophila melanogaster* and *D. simulans*
*W. Eanes, M. Zurovcova

9:15 818 Polymorphism and Divergence at the Pgm Locus of *Drosophila*
*B.C. Verrelli, W.F. Eanes

9:30 819 Queen Relatedness in Fire Ants Estimated with Nuclear and Mitochondrial Markers
*M.A.D. Goodisman, K.G. Ross

9:45 820 DNA Variability, Selection, and Recombination at X-Linked Genes in House Mice and Humans
*M.W. Nachman, V.L. Bauer, S.L. Crowell, C.F. Aquadro

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Chemistry 140

8:30-10:00 Session 90 - Combined-Data Systematics
Chair: Sandra Baldauf

8:30 821 Consensus Phylogeny of Eukaryotes Based on Molecular Data
*S. Baldauf, W.F. Doolittle

8:45 822 Molecular Phylogenetics of *Cancer* Crabs: DNA, Morphology, and Fossils
*M. Harrison, B. Crespi

9:00 823 The Evolution of Bipedal Hopping in Kangaroos
*A. Burk, M. Springer, M. Westerman

9:15 824 Is Saturation of Substitutions Such a Big Problem?
*Z. Yang

9:30 825 Monophyly of the Ant Genus *Messor*
*M. Bennett

9:45 826

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JILA Auditorium

8:30-10:00 Session 91 - Biogeography
Chair: Michael Charleston

8:30 827 Species Range Expansion and *Drosophila*-Parasitoid Interaction
H.R. Koepfer, *P.C. Chabora, A. Kermarrec

8:45 828 Jungles: A New Solution to the Host/Parasite Phylogeny Reconciliation Problem
*M.A. Charleston

9:00 829 Phylogeny and Biogeography of the North Temperate Disjunct *Aralia* sect. Aralia (Araliaceae)
*J. Wen

9:15 830 Rarity and the Biogeography of the Large-Flowered Piptoloboid Clade of *Astragalus* L. (Fabaceae).
*J.W. White

9:30 831 Genetic Structure of the Giant Tiger Prawn, *Penaeus monodon*, in Australia: MtDNA Evidence of Founder Effect and Post-Glaciation Population Spread
*J. Benzie, E. Ballment

9:45 832

10:00-10:30 Break

CIRES Auditorium

10:30-12:00 Session 92 - Experimental Evolution
Chair: Laura Landweber

10:30 833 Experimental Evolution of Temperature Sensitivity in *Drosophila*: Fitness Estimates on Selected Lines
*G.W. Gilchrist, R.B. Huey

10:45 834 Expression of the 70-kD Heat Shock Protein in *Drosophila* Populations: Laboratory Evolution at Different Temperatures
*B.R. Bettencourt, M.E. Feder, S. Cavicchi

11:00 835 In Vitro Evolution of a Small RNA Ligase Ribozyme from Random Sequences
*L. Landweber

11:15 836 An Experimental Test of Fisher's Geometric Model: Evolution by Small or Large Steps?
*C.L. Burch, L. Chao

11:30 837 The Consequence of Genetically Homogeneous and Heterogeneous Host Passages for Population Size, Virulence, and Infectivity of a Viral Pathogen
*G. Park, S.E. Kelley

11:45 838 Propogation of a Vertically Transmitted Virus in an Experimental Population Under Relaxed Selection
L.Y. Yampolsky, *C. Webb, A. Kondrashov, S. Shabalina

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UMC 157

10:30-12:00 Session 93 - Sexual Selection
Chair: Joseph Travis

10:30 839 Polygynandry in Two Species of Male-Pregnant Pipefish (*Syngnathus floridae* and *S. typhle*): An Analysis Based on Microsatellite Data
*A.G. Jones, J.C. Avise

10:45 840 Evolutionary Reconstruction of Sexually Selected Characters in the Trinidad Guppy and Related Species
*F. Breden, M. Bertrand

11:00 841 Interspecific Female Choice Between High-Fin and Low-Fin Species of Mollies (*Poecilia latipinna* , *P. mexicana* and *P. orri*)
*M.B. Ptacek

11:15 842 The Evolution of Vertical Body Bars in Swordtail Fishes
*M.R. Morris

11:30 843 Secondary Sex Character Differentiation in Male Sailfin Mollies (*Poecilia latipinna*)
*J. Travis, M. Ptacek, N. Martin

11:45 844 Paternity Distributions in a Pelagically Spawning Fish - *Thalassoma bifasciatum*
*L. Wooninck

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UMC 235

10:30-12:00 Session 94 - Speciation and Cladogenesis
Chair: Lisa Marie Meffert

10:30 846 Unstable Courtship Repertoire of Founder-Flush Populations of the Housefly
*L.M. Meffert

10:45 847 Change in Pigmentation Pattern As it Relates to Speciation in Caribbean *Drosophila*
*H. Hollocher, J. Hatcher

11:00 848 Individuals, Food Webs, and Speciation in a Simulated Ecosystem
*C.C. Maley

11:15 849 Systematics and Evolution of New Zealand Cicadas
*P. Arensburger, C. Simon, T. Buckley, G. Chambers

11:30 850 Sexual Selection, Courtship Signals and Species Diversity in Teleost Fishes: Has Sexual Dimorphism Promoted Diversification?
*S. Mesnick

11:45 851 Contrasting Diversification Patterns Between Sister Clades *Lavigeria* and *Nassopsidia* (Gastropoda: Thiaridae) from Lake Tanganyika: Morphology and DNA Sequence Variation
*E. Michel

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Fine Arts N141

10:30-12:00 Session 95 - Geographic Variation and Hybrid Zones
Chair: Theresa Bert

10:30 853 Signs for the Hybrid Speciation on the *Fundulus heteroclitus* (Teleostei; Fundulidae) Subspecies Boundary
*N. Mugue, J. Weis

10:45 854 Social Incompatibility and Gene Flow Across a Behavioral Hybrid Zone
*S. Cahan

11:00 855 Mitochondrial DNA Variation in a Supposed Hybrid Zone Between "*Akodon*" *olivaceus* and "*Akodon*" *xanthorhinus* (Rodentia: Sigmodontinae)
*M.F. Smith

11:15 856 Geographic Differentiation in the Jumping Spider *Habronattus pugillis*: Evidence for Sexual Selection on a Gene Tree?
*S. Masta, W. Maddison

11:30 857 The Project from Hell: Spanish Sardines, Speciation or Ecophenotypic Variation?
*T. Bert, B. Chernoff

11:45 858 Sexual and Microgeographical Variation in Body Size and Trophic Morphology Among Island Populations of Water Snakes
*A. Queral-Regil

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Chemistry 140

10:30-12:00 Session 96 - Population Ecology
Chair: Emily Lyons

10:30 859 Geographic Distribution of *S. latifolia* and *M. violaceum* in the Eastern U.S.
*E.J. Lyons, A.M. Jarosz

10:45 860 Consequences of Phenotypic Variation in the Pheromone System of a Bark Beetle
*A.M. Shumate

11:00 861 A Population-Regulatory Mechanism for Limiting the Spread of Cheating in a Mutualism
*D.W. Yu, N.E. Pierce

11:15 862 Detection and Quantification of Stone Crab Larvae (*Menippe* sp.) from Marine Plankton Samples Using Competitive PCR
*J.G. MaKinster, D.L. Felder, J.E. Neigel

11:30 863 Host-Parasite Interactions in Populations of Monarch Butterflies (*Danaus plexippus*) and a Protozoan Parasite (*Ophryocystis elektroscirrha*): Disease Dynamics in Relation to Host Migratory Behavior
*S.M. Altizer

11:45 864 Spatial Dispersion and Sexual Selection in the Digger Wasp, *Microbembex*
*T. Fraizer

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UMC Forum

10:30-12:00 Session 97 - Population Genetics
Chair: Ellen Williamson

10:30 865 Developmental Rate, Polymorphism, and Natural Selection in *Fundulus heteroclitus*
*E. Williamson, L. DiMichele

10:45 866 Microsatellite Analysis of Genetic Relatedness and Inbreeding in *Oncothrips*
*T. Chapman, B. Crespi

11:00 867 Genetic Structuring in Populations of European Wild Rabbits (*Oryctolagus cuniculus*)
*A.K. Surridge, D.J. Bell, G.M. Hewitt

11:15 868 Fig Wasps and the Effect of Population Size on Genetic Divergence
*C. Machado

11:30 869 The Mediterranean-Atlantic Connection: MtDNA Variation Among Different Geographical Population of Several Species of Marine Teleosts (Sparidae, Perciformes)
*L. Bargelloni, E. Penzo, L. Ostellari, T. Patarnello

11:45 870 Gone with the Wind Drift: Intraspecific MtDNA Variation for Two Circum-Antarctic Fish Species with Different Dispersal Ability
*L. Bargelloni, E. Penzo, L. Ostellari, T. Patarnello

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JILA Auditorium

10:30-12:00 Session 98 - Molecular Evolution
Chair: Niles Lehman

10:30 872 Continuous Evolution in Vitro of a Ligating Ribozyme
*N. Lehman, M. Wright

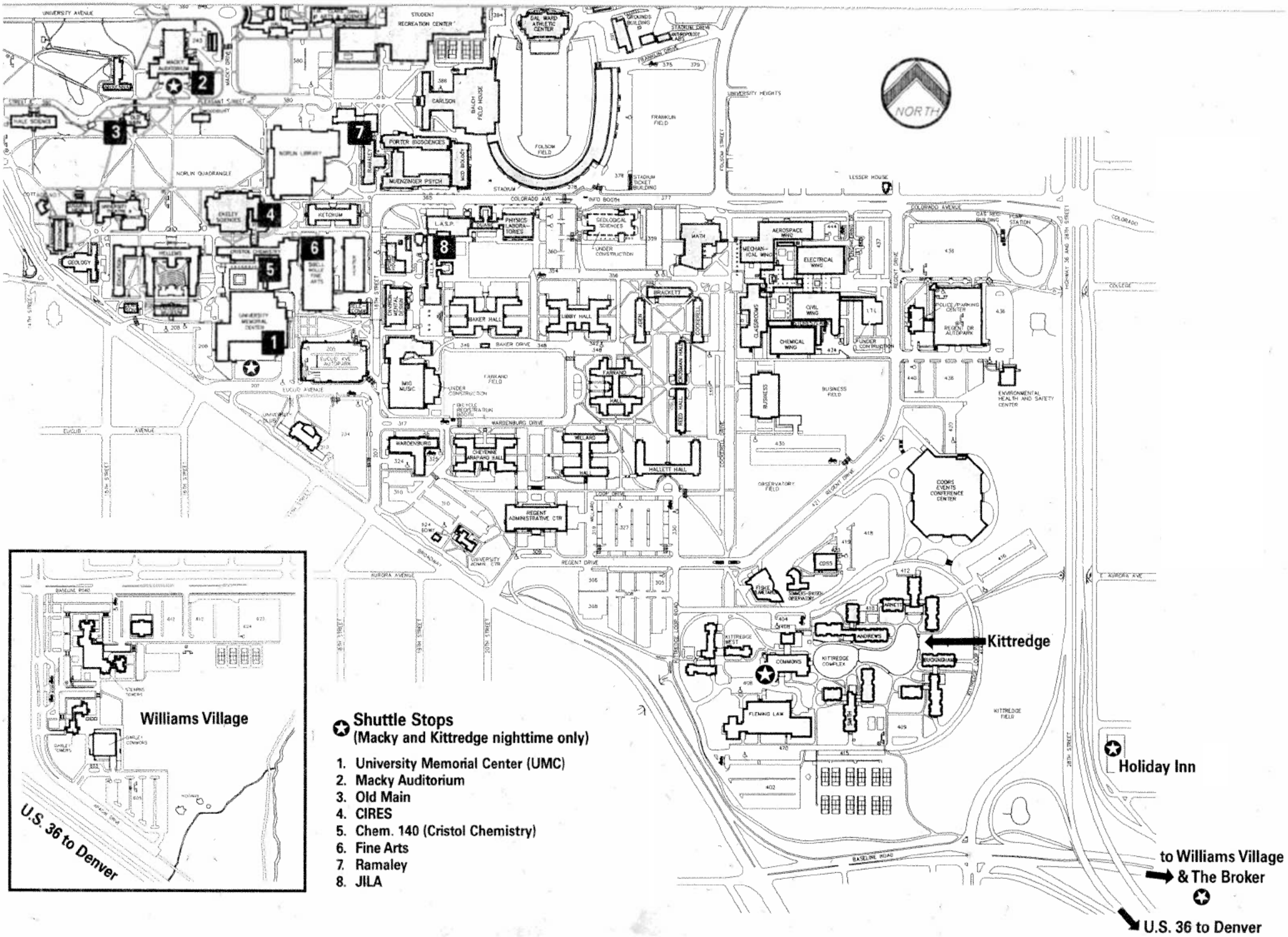
10:45 873 An Ancient Retrovirus-Like Element, Mys 9, Is at a Hot Spot for SINE Insertion
*M.A. Cantrell, B.J. Filanoski, A.E. Ingerman, H.A. Wichman

11:00 874 Comparison of Orthologous Mys Retrotranposons in Two Species of *Peromyscus*
*L. Scott, R. Sawby, C.J. Brown, H.A. Wichman

11:15 875 Competitive Dominance of Symbiotic Bacteria in a Luminous Bacterial-Squid Mutualism
*M.K. Nishiguchi, E.G. Ruby, M.J. McFall-Ngai

11:30 876

11:45 877


NORTH
Kittredge
Holiday Inn
to Williams Village & The Broker
U.S. 36 to Denver
Williams Village
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Shuttle Stops
(Macky and Kittredge nighttime only)
1. University Memorial Center (UMC)
2. Macky Auditorium
3. Old Main
4. CIRES
5. Chem. 140 (Cristol Chemistry)
6. Fine Arts
7. Ramaley
8. JILA