Society of Systematic Biologists (SSB)
Society for the Study of Evolution (SSE)
American Society of Naturalists (ASN)
Numerical Taxonomy Group (NT)

8th - 12th July 1995
McGill University, Montreal, Quebec

Program
Society of Systematic Biologists (SSB)
Society for the Study of Evolution (SSE)
American Society of Naturalists (ASN)
Numerical Taxonomy Group (NT)

8th - 12th July 1995
McGill University, Montreal, Quebec

Program
The academic program comprises 847 papers arranged in 70 symposia, oral and poster sessions, in addition to four presidential addresses, contributed by 1372 authors. The participants at the time of printing come from 26 countries.
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## Session Listing

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Local Organizing Committee

Co-Chairs and Academic Program:
Graham Bell
Department of Biology and Redpath Museum, McGill University
David Green
Redpath Museum and Department of Biology, McGill University

Catering: Martin Lechowicz
Audio-visual: Peter Crnokrak and Rick Preziosi
Local Attractions: Dan Schoen and Cliff Zeyl
Signage: Derek Roff and the staff of the Redpath Museum

Exhibits

The Conference book displays will take place during the regular conference hours in the Stephen Leacock Building, room 232, on the mezzanine level. The following companies are participating:

Academic Press
Blackwell Science Inc.
Chapman & Hall
Johns Hopkins University Press
Oxford University Press
Princeton University Press
Sinauer Associates, Inc.
The University of Chicago Press
General Information

Program Format
The program consists of plenary, symposium, oral, and poster presentation sessions. Program sessions will take place in several buildings on McGill University lower campus. Please refer to your McGill map and program schedule for session locations. Half hour coffee breaks are scheduled for 10:00-10:30 am and 3:30-4:00 pm daily.

Registration and Information Desk
The Registration desk is located on the lobby level of the Stephen Leacock building and will be open at the following times:
- Saturday, July 8: 2:00 pm to 8:00 pm
- Sunday, July 9: 8:00 am to 6:00 pm
- Monday, July 10: 8:00 am to 6:00 pm
- Tuesday, July 11: 8:00 am to 6:00 pm
- Wednesday, July 12: 8:00 am to 11:00 am
Please come to the desk for any help or information you may require.

Message Centre
A message board is located at the Registration desk and will be available during the hours of registration.

Registration Package
Your conference kit contains a program, restaurant list, McGill map, and Montreal tourist information.

Badge Identification
An identity badge is required for admission to all conference activities. A badge with a ribbon designates staff members and organizers who can provide general information and assistance.

Audiovisual Headquarters
Audiovisual arrangements are coordinated from a desk near the Registration desk in the lobby of the Leacock building. Please consult this desk when any problem arises.

Speakers are responsible for organizing their own slides in carousels. Extra carousels are available in room 214 of the Leacock Building. Speakers should take their carousels to the meeting room prior to the beginning of the session and collect their slides at the end of the session. Student staff will be available to help you with your presentation requirements. The meeting organizers can accept no liability for lost, stolen or damaged slides.

All speakers are advised to meet with their session chairs in the session room at least 10 minutes before the session.

Poster Presentations
Poster sessions will be held in the Shatner Ballroom of the University Centre, located at 3480 McTavish Street, directly across from the Stephen Leacock Building. The Ballroom will be open throughout the day Sunday and Monday. Authors should be in attendance at their posters Sunday, July 9 from 9:00 - 1:00 pm and Monday, July 10 from 9:00 - 11:00 pm.

Posters scheduled for session 1 on Sunday, July 9, must be mounted before 12:00 noon and removed no later than 10:00 am on Monday, July 10. Posters scheduled for session 2 must be mounted between 10:00 am and noon on Monday, July 10. They must be removed no later than 10:00 am, Tuesday, July 11.

Persons with Disabilities
Please inform the registration desk of your special needs.

City Buses and Metro (Subway)
The cash fare is $1.75. Strips of tickets costing $7.00 for six tickets may be purchased at metro stations. Tickets and transfers can be used interchangeably on buses and metro. Telephone A-U-T-O-B-U-S for free route directions. The Metro is the best way to get to the Olympic Park, Place des Arts, La Ronde, the Forum, and Old Montreal. The station nearest to you is the McGill metro on University Street and President Kennedy (south of Sherbrooke Street).

Tipping
In Canada, a service charge is usually not included in the cost of a meal. The normal gratuity is 10% to 15%. When a service charge is included, it will be indicated on the menu. Taxi drivers will expect a 10% to 15% tip.

Please note that two taxes, G.S.T. and P.S.T. (T.P.S. and T.P.V., respectively, in French) will be added.

Currency and Exchange Facilities
The Canadian dollar is the legal tender in Canada but the American dollar is accepted almost everywhere at the prevailing rate of exchange. There are no restrictions on the amount of foreign currency or traveller’s cheques brought into Canada. Banks are open from 09:00 to 16:00 Monday to Friday. Several banks are open on Saturday.

Foreign currencies can be exchanged at the airports and at most banks.
### Session Schedule

**Sunday, 9th July**

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<tr>
<th>Time</th>
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<tr>
<td>09:00</td>
<td>Plenary</td>
<td>Welcoming Remarks</td>
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<tr>
<td>09:30</td>
<td>Symposium</td>
<td>Phylogenetics of Historically-Associated Lineages: Parasites and Hosts, Taxa and Areas, Genes and Species</td>
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<td>Conservation</td>
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<td>Comparative</td>
<td>Analysis of Adaptation</td>
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<td>Selection</td>
<td>Theory and Practice</td>
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<td>Sex and Evolution</td>
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<td>12:00</td>
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<td>13:00</td>
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<td>Phylogenetic</td>
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**Monday, 10th July**

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<tr>
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Lunch

**Monday, 10th July**

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<td>In Defense of Founder Flush Speciation</td>
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**Monday, 10th July**

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<td>Time</td>
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<td><strong>Session 62</strong> Symposium Mapping Quantitative Trait Loci</td>
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<td><strong>Session 63</strong> Symposium Rapid Evolutionary Changes in Wild Populations</td>
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<td><strong>Session 64</strong> Concurrent Molecular Systematics: Fungi, Algae and Plants</td>
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<td><strong>Session 46</strong> Concurrent Molecular Evolution: General Issues</td>
<td><strong>Session 65</strong> Concurrent Genetic Variability and Metapopulations</td>
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<td><strong>Session 47</strong> Concurrent Gene Flow and Genetic Diversity</td>
<td><strong>Session 66</strong> Concurrent Evolution and Development</td>
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<td><strong>Session 48</strong> Concurrent Sexual Selection: Choice and Combat</td>
<td><strong>Session 67</strong> Concurrent Cytonuclear Interaction and Gene Evolution</td>
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<td><strong>Session 49</strong> Concurrent Life Histories: Optimization, Correlation and Constraint</td>
<td><strong>Session 68</strong> Concurrent Molecular Population Genetics: Models and Mutations</td>
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<td><strong>Session 50</strong> Concurrent Parasitic Genetic Elements</td>
<td><strong>Session 69</strong> Concurrent Sex Ratios and Sex Allocation</td>
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<td><strong>Session 51</strong> Concurrent Molecular Evolution: Selection</td>
<td><strong>Session 70</strong> Concurrent Molecular Evolution: Small-Scale Variation and Phylogeny</td>
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<td>10:00 - 10:30</td>
<td><strong>Break</strong></td>
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<td>12:00 - 2:00</td>
<td><strong>Lunch</strong></td>
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<td>2:00 - 5:30</td>
<td><strong>Session 52</strong> Symposium Incorporating Molecular Evolution into Molecular Systematics</td>
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<td><strong>Session 53</strong> Concurrent Biogeography</td>
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<td><strong>Session 54</strong> Concurrent Molecular Systematics: Viruses, Bacteria and Invertebrates</td>
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<td><strong>Session 55</strong> Concurrent Demography</td>
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<td><strong>Session 56</strong> Concurrent Inbreeding Depression in Plants</td>
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<td><strong>Session 57</strong> Concurrent DNA Sequence Variation</td>
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<td><strong>Session 58</strong> Concurrent Species Interactions</td>
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<td><strong>Session 59</strong> Concurrent Life Histories: Development, Dispersal and Density</td>
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<td>3:30 - 4:00</td>
<td><strong>Session 60</strong> Concurrent Genetic Population Structure II</td>
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<td>6:00 - 8:30</td>
<td><strong>Banquet</strong></td>
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<tr>
<td>9:00 - 10:00</td>
<td><strong>Session 61</strong> Plenary SES Presidential Address Light, Vision, Colour Patterns, and Behaviour: Suits of Interactive Traits and the Direction of Evolution</td>
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Social Activities

Welcome Reception
The Welcome Reception will be held on Saturday, July 8 at 6:30 pm on the Redpath Hall Terrace, weather permitting (inside, if not). This activity is included in the registration fee for all conference participants.

Banquet
The conference banquet will take place at Bishop Mountain Hall, 3935 University Street (at the very top of the hill), Tuesday, July 11, 6:00 to 8:30 pm.
Dress: CASUAL.

Ernst Mayr Student Award
Submitted paper titles eligible for the Ernst Mayr Student Award (SSB) are indicated with a bullet (•) in the program schedule. The announcement of the recipient of this award will be made at the ASN Presidential Address on Tuesday evening.

McGill University Campus

Sessions will take place in the following buildings:
60 University Centre
76 Redpath Museum
77 Macdonald Engineering Building
101 Stephen Leacock Building
102 Arts Building
1995 Annual Meeting

Society of Systematic Biologists (SSB)
Society for the Study of Evolution (SSE)
American Society of Naturalists (ASN)
Numerical Taxonomy Group (NT)

Session Listing

Note:
* indicates the presenter
* indicates student presentation in competition for the Ernst Mayr Award (SSB)
Sunday, 9th July 1995: Morning

Leacock 132

8:00 - 8:30

Session 1  Welcoming Remarks

Plenary
David M. Green
Vice-Principal (Academic) T. H. Chan
Graham Bell

Leacock 26

8:30 - 12:00

Session 2  Phylogenetics of Historically-Associated Lineages: Parasites and Hosts, Taxa and Areas, Genes and Species

Symposium
Chair: Richard O'Grady

8:30        1  Genes, Organisms, and Areas: A New Threefold Parallelism?
           * R.D.M. Page

9:00        2  Genes and Their Trees: Connections between Levels in the Hierarchy of Life
           * J.J. Doyle

9:30        3  Gene Trees in Species Trees
           * W. Madison

10:00       Break

10:30       4  Parsimony and Component: What Do They Really Do—and Why?
           * D.R. Brooks

11:00       5  Component-Compatibility in Analyzing Historically-Associated Lineages
           * R. Zande

Redpath Museum Auditorium

8:30 - 12:00

Session 3  Conservation Genetics

Contributed Papers
Chair: Leonard Nunney

8:30        6  Effective Size of Spatially Structured Populations
           * L. Nunney

8:45        7  Estimating Changes in Population Size from Molecular Data Using Metropolis-Hastings Likelihood Sampling
           * M.K. Kuhner, J. Yamato, J. Felsenstein

9:00        8  Effect of Population Decline on Molecular Genetic Variation in the Endangered Mauna Kea Silversword
           * E. Friar, R. Robichaux, D. Mount

9:15        9  Hybridization and the Extinction of Rare Plant Species
           * D.A. Levin

9:30        10 RAPD Markers Reveal Fine-Scale Genetic Variation in Iris lacustris, a Threatened Clonal Endemic
            * C. Landry, G. Hannan

9:45        11 New DNA Markers Applied to Genetic Monitoring Studies of Endangered Pacific Salmon Populations
            * P. Moran, D.A. Dightman, R.S. Waples, L.K. Park

10:00       Break

10:30       12 Temporal Allele Frequency Variance in the Striped Bass Santee-Cooper, SC, Population
            * M. Diaz, G. Leclerc, B. Ely

10:45       13 Conservation and Loss of Genetic Variation in Fish Life History Traits: Implications of Gene Flow and Strong Size-Base Selection
            * J.C. Trexler

11:00       14  *  Systematics and Conservation of the North American Boreal Toad (Bufo boreas)
            * A. Goebel
Sunday, 9th July 1995: Morning

11:15 15 A Mitochondrial DNA Study of Museum Specimens Reveals Low Historic Genetic Diversity in the Endangered Morro Bay Kangaroo Rat (*Dipodomys heermanni morroensis*)
* M.D. Matocq, F.X. Villablanca, J.A. Randall, C. Orrego

11:30 16 * No MHC Diversity in the Hawaiian Monk Seal
* P. Armstrong

11:45 17 Conservation Genetics of Small Cetaceans
* P.E. Rosel

Arts 125

8:30 - 12:00

Session 4 Comparative Analysis of Adaptation
Contributed Papers
Chair: Jonathan Losos

8:30 18 The Witch’s Nose is a Carrot: A Review of Objective Criteria for Invoking Character Displacement, and an Evolutionary Example Using Phylogenetic Autocorrelation
* J. Bernardo

8:45 19 * Exploring Uncertainty: How do Different Models of Ancestral Character State Reconstruction Affect Hypotheses of Character Displacement in Lesser Antillean *Anolis* Lizards?
* M.A. Butler, J.B. Losos

9:00 20 Is Evolutionary Specialization a One-Way Street: Studies on Caribbean *Anolis* Lizards
* J. Losos, K. de Queiroz

9:15 21 * A Comparative Analysis of Clinging Ability in Pad-Bearing Lizards
* D. Irshick, O. Ellers, J.B. Losos, K. Petren, C. Austin, R. Fisher

9:30 22 Physiological and Evolutionary Aspects of Marine Adaptation in Crocodilians
* K. Jackson

9:45 23 * The Evolution of Sound Signal Structure and Function in Arioid Catfishes: A New Model System
* I.M. Kaatz

10:00 Break

10:30 24 Coevolution of Egg Size and Ovipositor Length in Crickets
* Y. Carriere, S. Masaki, D.A. Roff

10:45 25 A Comparative Analysis of the Allometry for Sexual Size Dimorphism: Testing Rensch’s Hypothesis
* E. Abouheif, D.J. Fairbairn

11:00 26 Caenogenesis in the Evolution of Viviparity
* M.H. Wake

11:15 27 Phylogenetic Relationships, Sympathy and the Divergence of Gamete Recognition Proteins Among Turban Snails (*Tegula*)
* M.E. Hellberg

11:30 28 * Evolution of Locomotion in Centipedes: Falsification of Manton’s Model
* J.W. Shultz, B.D. Anderson, B.C. Jayne

11:45 29 * Evolutionary Coupling of Coloration and Chemical Defense: When Are Chemically-Defended Prey Cryptic?
* K. Kelley
Sunday, 9th July 1995: Morning

Macdonald Engineering Building 279

Session 5 Selection: Theory and Practice
Contributed Papers
Chair: Don Stratton

8:30 30  The Evolution of Genomic Imprinting
* H.G. Spencer

8:45 31  The Dominance Theory of Haldane’s Rule
* M. Turelli, H.A. Orr

9:00 32  Environmental and Evolutionary Effects of Temperature on Metabolic Acclimation
* D. Berrigan

9:15 33  Small-Scale Balancing Selection and the Maintenance of Genetic Variation
* D. Stratton

9:30 34  Natural Selection on Seed Size
* L. Mojonnier

9:45 35  The Targets of Selection in a Colicin Plasmid System
* M. Feldgarden, M. Laubichler

10:00  Break

10:30 36  Comparing Methods for the Analysis of Selection and Performance: Sprint Speed in Larval Wood Frogs (Rana sylvatica)
* P.C. Phillips

10:45 37  * Quantifying Selection in a Population of Tropical Treefrogs
* K.R. Lips

11:00 38  Evidence for Positive Selection in the white Region of Drosophila melanogaster
* D. Kirby, W. Stephan

11:15 39  Selection in Conyza: The Importance of Species Identity, Habitat, and Neighborhood Competition
* C. Thebaud

11:30 40  Kin Selection in the Annual Plant Species Impatiens capensis
* J. Kelly

11:45 41  Do Herbivores Impose Selection on Resistance in Natural Populations of Arabidopsis thaliana?
* R. Mauricio

Leacock 219

Session 6 Molecular Evolution: Gene Evolution
Contributed Papers
Chair: Guy Drouin

8:30 42  Evolution of Mitochondrial and Nuclear Transfer RNAs
* M. Lynch

8:45 43  Accelerated Rates of Molecular Evolution in the Chloroplast Gene rps2 From Photosynthetic and Nonphotosynthetic Parasitic Plants
* C.W. de Pamphilis, N.D. Young, A.D. Wolfe

9:00 44  Evolution of Genes Which Control Floral Morphology
* M. Parugganan, S. Rounsley, R. Schmidt, M. Yanofsky

9:15 45  * Evolution of the recA Protein and the Phylogeny of Bacteria
* J.A. Eisen, A.L. Roca

9:30 46  Molecular Evolution of Mitochondrial cox1 Sequences in Plants and Animals: A Comparative Analysis
* N.D. Young, A.D. Wolfe, C.W. dePamphilis

9:45 47  Molecular Evolution of Three Fungal Proteins
* V. Koufopanou, A. Burt, J.W. Taylor

10:00  Break
Sunday, 9th July 1995: Morning

8:30  48  The Transposition and Concerted Evolution of 5S Genes Within Other Multigene Families
* G. Drouin

8:45  49  The Evolution of P-Glycoprotein, A Member of the ABC Superfamily of Transporters
* M. El, G. Drouin

9:00  50  Concerted Evolution of the Rubisco Small Subunit Gene Family in the Solanaceae
* A. Colwell, R. Olmstead

9:15  51  Nucleotide Substitution Rates in Adh1: Comparisons Between Grass and Palm Sequences
B. Morton, * B.S. Gaut, M.T. Clegg

9:30  52  Evolution of Regulatory Sequences: The Lactate Dehydrogenase -B Gene in Fundulus heteroclitus
* P.M. Schulte, D.A. Powers

9:45  53  The Comparative Method at the DNA Level: The Evolution of Multiple Beta-Globin Genes (and Pseudogenes) In Antarctic Fish
* L. Bargelloni, T. Patarnello

Macdonald Engineering Building 280

8:30 - 12:00  Session 7  Evolution and Behavior
Contributed Papers
Chair: Bruce Waldman

8:30  54  Evolution and Coevolution of Male and Female Mating Behavior in a Polygynandrous Mating System
* S.L. Lance, L. Chao

8:45  55  Evolution of Foraging Mechanisms and the Currency of Energy Maximization in Bumble Bees
* D.E. Taneyhill

9:00  56  Allozyme Evidence Suggests that Quantitative Trait Loci Candidate Genes Correlated with Geotaxis in Drosophila melanogaster are Located Near Adh (2-50.1)
* S.F. Stotenberg, J. Hirsch

9:15  57  Genetic Correlations and Learning Phenotypes in Drosophila melanogaster
* K. Lofdahl, Y. Shin, L. Borja

9:30  58  Colony Cycles and Kin Recognition in a Neotropical Swarm-forming Wasp: Evidence From Microsatellites
* J. Strassmann, J. Klingler, K. Goodnight, D. Queller, E. Arevalo

9:45  59  Worker Policing and Conflicts of Interest in the Paper Wasp, Polistes bellicosus, Determined by Microsatellites
* E. Arevalo, J.E. Strassmann, D. Queller

10:00  Break

10:30  60  Microsatellite-Based Analysis of Maternity and Reproductive Control in the Paper Wasp, Polistes annularis
* D. Queller, J. Peters, J. Strassmann, C. Solis

10:45  61  Alternative Mating Strategies of the Marine Amphipod Jassa marmorata: Why Are Some Males All Thumbs?
* R.A. Clark

11:00  62  Evolutionary Responses of Escape Swimming Performance in Guppies to Differing Natural Predation Intensity
* A. J. Cullum

11:15  63  Larval Kin Recognition in the Joint Nesting Salamander Species Hemidactylium scutatum (Caudata: Plethodontidae): Avoidance vs. Attraction
T.J. Vess, * R.N. Harris

11:30  64  Inbreeding Avoidance and Genetic Differentiation of Breeding Populations in American Toads (Bufo americanus)
* B. Waldman

11:45  65  Bright Female Coloration and Signalling between Females and Males of the South American Iguanid Lizard Microlophus occipitalis
* G. Watkins
Sunday, 9th July 1995: Morning

Macdonald Engineering Building 497

Session 8 Local Adaptation

Contributed Papers
Chair: Murray Littlejohn

5:30  66  How Does Immigration Influence Local Adaptation? A Re-examination of a Familiar Paradigm
* R.D. Holt, R. Gomulkiewicz

5:45  67  Molecular Phylogenetic Evidence for Adaptive Radiation Through Shifts in Habitat Preference
* M. Stanhope

6:00  68  Restricted Gene Flow between Locally Adapted Aphid Populations: Role of Habitat Choice
* S. Via

6:15  69  Local Adaptation, Morphological Maturation, and the Potential for Selection by a Gill Net Fishery on Spawner Morphology in Sockeye Salmon
* T.R. Hamon, R. Hilborn, D.E. Rogers

6:30  70  Trade-Offs of Ecological Specialization: An Intraspecific Comparison of Pumpkinseed Sunfish Phenotypes
* B.W. Robinson, D.S. Wilson

6:45  71  Reproductive Character Displacement in the Tree Frogs Litoria ewingii and Litoria verreauxii: A Re-examination
* M.J. Littlejohn, G.F. Watson

7:00  Break

7:30  72  Postmating Reproductive Isolation Between Zimbabwe and Non-Zimbabwe Drosophila melanogaster
* N.A. Johnson

8:00  73  Host Effects on Body Size Associated with Host Shifts in Enchenopa Treehoppers
* A.B. Shantz, K.J. Tilmont, T.K. Wood

8:15  74  Adaptation by Enchenopa Treehoppers to Novel Plants in the Initial Stages of a Host Shift
* K.J. Tilmont, T.K. Wood

8:30  75  Experimental Insect Race Formation: Host Plant Fidelity During Mating and Oviposition
* T.K. Wood, K.J. Tilmont

8:45  76  Sex-Linked Loci Associated with Host Race Differentiation in Fall Armyworm Spodoptera frugiperda
* D.G. Heckel, J. Adamczyk, H. Fescemyer, Y.T. Ma

9:00  77  Multiple Song Species in a Single Morphological Species: The Complex Story of a Green Lacewing, Chrysoperla carnea
* C.S. Henry

Session 9 Hybridization

Contributed Papers
Chair: Michael Wade

8:30  78  Developmental Genetic Variation Revealed by Hybridization
* M.J. Wade, N.A. Johnson

8:45  79  Natural Hybridization in Daphnia: Genetic and Evolutionary Consequences
* K. Schweng

9:00  80  Hybridization of Two Sympatric Colias Butterflies: Estimation of the Rate of Gene Flow Using Allozyme Data
* K.C. Fletcher

9:15  81  Barriers of Cross-Fertilization in Sympatric Sea Urchins (Echinoidae:Strongylocentrotidae)
* C.H. Biemann

9:30  82  Tracking Paleontrogressive Events: Evidence from Vertebrates and Insects
* L. Bullini, R. Cianchi, G. Nascetti, S. Urbanelli, E. De Vito, P. Salicandro, A. Verardi

9:45  83  The Effects of Natural Hybridization on the Inheritance of mtDNA in Marine Mussels (Mytilus spp)
* P.D. Rawson, T.J. Hilbish

10:00 Break
Formation of a Hybrid Population: Production of FI Progeny Constrains the Frequency and Genotypes of Future Hybrid Generations
S.A. Hodges, * J.M. Burke, M.L. Arnold

Effective Hybridization in Sympatric Populations of Milkweeds (Asclepias exaltata and Asclepias syriaca)
* S.B. Broyles, C. Vail, D. Laffin, S. Bauer

The Origin and Maintenance of a New Tetraploid Senecio Hybrid in York, England
* A. Lowe, R. Abbott

Effects of Pollen-Tube Growth Rate and Ovule Position on Hybridization in the Louisiana Irises
* S.E. Carney, S.A. Hodges, M.L. Arnold

Fitness of Hybrids in Two Oak Hybrid Zones
* J.H. Williams Jr., W.J. Boecklen, D.J. Howard

Frequency and Direction of Hybridization in Sympatric Populations of Pinus taeda L. (Loblolly Pine) and P. echinata Mill. (Shortleaf Pine)
* M.A. Edwards, J.L. Hamrick, R.A. Price

Macdonald Engineering Building 476

3:30 - 12:00

Session 10 Sex and Evolution
Contributed Papers
Chair: Gary Sullivan

The Effect of Sex on the Variance in Fitness and Mean Fitness: An Experiment with Chlamydomonas
* J. Da Silva, G. Bell

Sex and the Tangled Bank: Sex Provides No Benefit to Paramecium in a Complex Environment
* A.O. Parman

Tropical Ostracodes and the Ecology of Sex
* T.J. Little, P.D.N. Hebert

Antigenic Variation and Intragenic Recombination in the ospe gene of Borrelia burgdorferi
* D. Dykhuisen, D. Gutman, B. Luft

Change of Genetic Architecture in Response to Sex
* H. Deng, M. Lynch

Molecular Markers Reveal Cryptic Sex in the Human Pathogen Coccioides immitis (Fungi)
* A. Burt, D.A. Carter, G.L. Koenig, T.J. White, J.W. Taylor

Break

Molecular Evidence for Sex Without Genetic Recombination in the Metagenic Life-Cycle of Eleutheria dichotoma (Hydrozoa)
* B Schierwater, H. Hadrys

Genetic Evidence for Ancient Loss of Sex in Bdelloid Rotifers
* D. Welch, J. Mark, A. Fagen, M. Meselson

Origins of Polyploidy in Obligately Asexual Lineages of the Daphnia pulex Complex from Arctic North America
* F. Dufresne, P.D.N. Hebert

Vegetative Reproduction and Mutational Meltdown in Small Populations of a Rare Eucalypt Species
* W.J. Kemington, S.H. James

Genetic Variation in a Tradeoff Between Sexual and Asexual Reproduction in a Dioecious Clonal Plant
* G. Sullivan
Sunday, 9th July 1995: Afternoon

Leacock 26

2:00 - 5:30

Session 11  ASN Young Investigators Prize Symposium
Symposium
Chair: Andrew G. Clark

2:00  101  Molecular Population Genetics of *Drosophila*
      * D. Begun

2:45  102  Reconstruction of Ancestral Nucleotide or Amino Acid Sequences by the Likelihood Approach
      * Z. Yang

3:30  Break

4:00  103  Behavioral and Evolutionary Dynamics of Sexual Conflict in Water Striders
      * J. Armqvist

4:45  104  The Evolutionary Transition Between Haploid and Diploid
      * S.P. Otto

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2:00 - 5:30

Session 12  Phylogenetic Methods: Theory & Practice
Contributed Papers
Chair: Michael Sharkey

2:00  105  Discriminating Compatibility Measures as Weights in Parsimony Analysis
      * M. Sharkey

2:15  106  Total Evidence vs. Consensus with Molecular Data Sets: Is There Just One Answer?
      * R. Olmstead

2:30  107  Polymorphic Characters in Phylogenetic Systematics
      * J.J. Wiens

2:45  108  Detection of Conflicting Phylogenetic Signals
      * J. Huelsenbeck, J.J. Bull

3:00  109  Phylogenetic Invariants: The Geometry and Algebra of Phylogenetic Estimation
      * J. Kim

3:15  110  An Evaluation of the Performance of Successive Weighting Using Simulation and a Well Supported Phylogeny
      * J.A. McGuire, J.P. Huelsenbeck

3:30  Break

4:00  111  The Estimation of Evolutionary Distances under Nonstationary Nucleotide Content
      * A. Zharkikh, W. Li

4:15  112  The Phylogenetic Utility of LogDet/Paralinear Distances for More Realistic Evolutionary Models. I. Do They Perform as Advertised?
      * P.O. Lewis, D.L. Swofford, P.J. Waddell

4:30  113  The Phylogenetic Utility of LogDet/Paralinear Distances for More Realistic Evolutionary Models. II. Is There a Heavy Price For Using Them When a Simpler Model Would Suffice?
      * D.L. Swofford, P.O. Lewis, P.J. Waddell

4:45  114  A Fast Method for Approximating Likelihoods in the Estimation of Phylogenetic Trees from Nucleotide Sequences
      * J.S. Rogers, D.L. Swofford

5:00  115  * A Procedure for Phylogenetic Taxonomy
      * M.S. Caterino

5:15  116  Maps and Legends: Independence Between the Phylogenies We Use and the Stories We Tell
      * J.T. Steelman
Sunday, 9th July 1995: Afternoon

Macdonald Engineering Building 279

2:00 - 5:30

Session 13  Evolution of Phenotypic Plasticity
Contributed Papers
Chair: Samuel Scheiner

2:00  117  Mutations for Phenotypic Plasticity in Arabidopsis
* C. Schlichting, M. Pigliucci, G. Tyler
2:15  118  Pleiotropic Effects of Genes Affecting Phenotypic Plasticity in Arabidopsis
* M. Pigliucci, J. Schmitt
2:30  119  Testing the Adaptive Plasticity Hypothesis: Density Dependent Selection on Manipulated Stem Length in Impatiens capensis
* S.A. Dudley, J. Schmitt
2:45  120  Plasticity of Stem Elongation and Leaf Area in Response to Irradiance and Light Quality in Impatiens capensis
* J. Ballis, S.A. Dudley, J. Schmitt
3:00  121  Phenotypic Plasticity and Genetic Similarity among Genotypes of an Annual Plant
* M. Jasienski, F.J. Ayala, F.A. Bazzaz
3:15  122  Phenotypic Plasticity in Sun versus Shade Native Populations of Amphicarpa bracteata
* H. Callahan, D.M. Waller
3:30  Break
4:00  123  The Evolution of Phenotypic Plasticity in an Unpredictable Environment
* G. De Jong
4:15  124  Plasticity Evolution: A Genomic Model with Spatial Structure -Part 2
* S.M. Scheiner
4:30  125  Selection on Plasticity: Can Costs or Genetic Constraints Lead to (Co-Existing) Specialists?
* P. Van Tienderen
4:45  126  Does Phenotypic Plasticity Evolve in Response to a Heteroscedastic World?
* A. Aldous, M. Waterway, P. Dutilleul
5:00  127  Selection and Adaptive Limitations on a Seasonally Plastic Trait
* J. Kingsolver
5:15  128  Ontogenetic Constraints and Genetic Variation of Morphological Reaction Norms in Grasshoppers
* D.B. Thompson

Macdonald Engineering Building 280

2:00 - 5:30

Session 14  Gender Evolution and Allocation
Contributed Papers
Chair: Daniel Heath

2:00  129  Evolution of "First Male" Effects on Sperm Use and Remating by Female Drosophila
* P.M. Service, R.E. Vossbrink
2:15  130  Sexual Reproduction of Daphnia pulex in a Temporary Habitat
* D.J. Innes, D.R. Singleton
2:30  131  Competition Among Clones of Daphnia pulex Varying in Allocation to Male Function
* D.R. Singleton, D.J. Innes
2:45  132  Quantitative and Molecular Determinations of the Genetic Basis of an Alternative Male Life History Strategy in Salmon
* D.D. Heath, K. Ridland, T. Mousseau
3:00  133  Genetic and Social Control of Male Maturation in Phallichthys quadripunctatus (Pisces: Poeciliidae)
* G.R. Kelluru, D.N. Reznick
* D.B. Lark, C.M. Smith
3:30  Break

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Sunday, 9th July 1995: Afternoon

4:00  135  Maintenance of Environmentally Cued Polymorphism Promoted by Gender-Specific Fitness Payoffs
       * H. Whitman

4:15  136  Variance at the Floral Level in Contribution to Whole-Plant Fitness: The “Male Function” Hypothesis Revisited
       * M. Burd

4:30  137  The Evolution of Floral Scent Production and Hawkmoth Pollination in Clarkia breweri (Onagraceae)
       * R.A. Raguso

4:45  138  Large Flowers Are Costly: Trade-Offs with Female Fitness Components in Solanum carolinense
       * E. Eile

5:00  139  Transexuality in the Pulpit: An Examination of Gender Choices
       * P. Vitt, K.E. Holsinger

5:15  140  Evolution of Protandry in the Pitcher-Plant Mosquito Wyeomyia smithii
       * W.E. Bradshaw, C.M. Holzapfel, C.A. Kleckner, J.J. Hard

Arts 255

2:00 - 5:30

**Session 15 Molecular Phylogeny: Arthropods**

Contributed Papers
Chair: Trisha Spears

2:00  141  Pleistocene Refugia in Coastal British Columbia: Tests Using Molecular Data From Endemic Vertebrates
       * T.E. Reimchen, B.E. Deagle, A. Byun

2:15  142  Evolutionary Relationships Among the Deep-Sea Hydrothermal Vent and Hydrocarbon Seep Endemic Shrimp
       (Decapoda: Caridea: Bresiliidae)
       * T.M. Shank, M. Black, R.A. Lutz, R.C. Vrijenhoek

2:30  143  Molecular Phylogeny of Peracarid Crustaceans and Selected Relatives Based on 18SrDNA
       * T. Spears, R.W. DeBry, L.G. Abele

2:45  144  * Molecular Systematics of Orb-Web Weaving Spiders
       * C. Hayashi

3:00  145  * Tetragnathid Phylogeny and Size Dimorphism in Nephilinida Spiders
       * G. Hormiga, J. Coddington

3:15  146  * Systematics of the Spider Genera Mallos and Mexitilia (Dictynidae): Congruence between Molecular and
       Morphological Data
       * J.E. Bond, B.D. Opell

3:30  Break

4:00  147  Phylogenetics of New Zealand Ground Weta (Orthoptera: Anostostomatidae)
       * A.S. Gerber

4:15  148  DNA Sequence Variation in Some Members of the Geocoris bullatus-pallens Species Complex (Heteroptera:
       Lygaeidae) Which Occur in Western Canada
       * D. Mulky

4:30  149  * Elongation Factor 1-α DNA Sequences Provide New Evidence on Relationships among Subfamilies of Noctuid
       Moths
       * A. Mitchell, J.C. Regier, C. Mitter

4:45  150  Molecular Systematics of Nymphalid Butterflies Based on Cladistic Analysis of Mitochondrial COII and *wings:
       Genes
       * A. Brower, R. DeSalle, J.S. Miller

5:00  151  Molecular Phylogeny of Giant Silk Moths (Saturniidae; Saturniinae: Aracini)
       * K. Horst, T. Friedlander, J. Regier

5:15  152  Molecular Phylogenetics and Evolution of Life Cycles in Aphids
       * C.D. von Dohlen, N.A. Moran
Sunday, 9th July 1995: Afternoon

Redpath Museum Auditorium

Session 16  Hybrid Zones and Species Complexes
Contributed Papers
Chair: Adam Porter

2:00  153  Hybridization in Disjunct Meadow Katydid Contact Zones: Molecules, Morphology and Behavior
* L. Shapiro

2:15  154  Distinguishing Secondary Contact and Hybridization from Intraspecific Clinal Variation
* B. Chernoff, T.M. Bert

2:30  155  Ancient Intergenomic Introgression in Gossypium (Cotton)
* J.P. Wendel, A. Schnabel, T. Seelanan

2:45  156  Asymmetric Mitochondrial Gene Flow: Patterns and Origins among Sibling Species of Mussels
P. Rawson, * J. Hilbish

3:00  157  A Three-Way Zone of Genetic Interactions in Salamanders of the Ensatina Complex
* D.B. Wake, C. Schneider

3:15  158  Genetic Consequences of Range Contraction and Expansion in the Spotted Frog Complex, Rana pretiosa
* D.M. Green

3:30  Break

4:00  159  The Pieris napi-bryoniae (Lepidoptera: Pieridae) Hybrid Zone at Pont de Nant, Switzerland: Dispersal and Selection Dynamics
* A. Porter, P. Benninger, R. Wenger, H. Geiger, A. Scholl

4:15  160  Oviposition Preference for Soil Type in and around a Field Cricket Hybrid Zone
* C. Ross

4:30  161  Nature of Selection that Stabilizes the Big Sagebrush Hybrid Zone in Utah
* H. Wang, D.C. Freeman, E. Durant McArthur, J.H. Graham

4:45  162  Inferring Mating System and Gene Flow in a Fire Ant Hybrid Zone: An Application of Cytonuclear Theory and Data in a Haplodiploid Organism
* M. Goodisman, D. Shoemaker, M. Asmussen

5:00  163  Factors Controlling Hybrid Zone Structure in Louisiana Irises: Reciprocal Transplant Experiments
* S.K. Emms, M.L. Arnold

Macdonald Engineering Building 497

Session 17  Response to Environmental Change
Contributed Papers
Chair: Alan E. Stiven

2:00  164  Genetic Constraints on Diet Expansion in the Leaf-Mining Fly Amauromyza flavifrons (Diptera:Agromyzidae)
* S.J. Scheller

2:15  165  Demographic and Genetic Responses of Eastern Mosquitofish Populations to Chronic Environmental Stress
* K.L. Kandl

2:30  166  Population Size, Inbreeding Depression and Extinction in a Perennial Plant Species
* N. J. Ouborg

2:45  167  The Response of Mating System to Different Plant Densities in the Natural Population of Impatiens capensis (Balsaminaceae)
* Y. Lu, D. Waller

3:00  168  Effective Use of Transgenic Crops to Manage Evolving Pathogens
* J. Winterer

3:15  169  Paternal Effects on Disease Resistance in the Tall Morning Glory
* E.L. Simms, J. Triplett

3:30  Break

4:00  170  Stress and the Genetic Heterozygosity Growth Rate Association in a Terrestrial Gastropod
* A. Stiven
Sunday, 9th July 1995: Afternoon

4:15  171  Genetic Response of Arabidopsis thaliana to Interacting Stresses  
* C. Bennington, D. Stratton

4:20  172  Thinning Reduces the Effect of Rust on Jewelweed (Impatiens capensis)  
* S.G. Johnson, C.M. Lively, L.F. Delph, K. Clay

4:45  173  The Genetics of Heavy Metal Tolerance in Chironomus riparius  
* J. Jobe

5:00  174  Dropping Like Flies: Artificial Selection on Heat Sensitivity in Drosophila  
* G.W. Gilchrist, R. B. Huey

5:15  175  The Red Mangrove (Rhizophora mangle): An Evolutionary Success Story in Tropical Intertidal Zones  
* U. Stolz, J. Cheeseman

Macdonald Engineering Building 476

2:00 - 5:30

Session 18  Experimental Evolution

Contributed Papers  
Chair: Cliff Cunningham

2:00  176  Clocks and Convergence: Observing the Course of Molecular Evolution in Experimentally Generated Lineages of Bacteriophage T7  
* C. Cunningham, J. Bull, D. Hillis

2:15  177  Evolution of Virulence in an Experimental Bacteriophage System  
* S. Messenger, J.J. Bull

2:30  178  Evolutionary Potential of Generalists and Specialists: An Experimental Study with Bacteriophage  
* G. Kukonis

2:45  179  100 Generations of Selection for Accelerated Development: Direct and Correlated Responses in Drosophila Life-History  
* A. Chippindale

3:00  180  Evolution of Desiccation Resistance in Drosophila melanogaster  
* A. Gibbs

3:15  181  Allozymic Differentiation in Response to Laboratory Selection in Drosophila melanogaster  
* D.J. Deckert, M.R. Rose

3:30  Break

4:00  182  Does Selection For Anthelmintic Resistance Alter the Life History Traits of a Parasitic Nematode?  
* A. Chehresa, M.E. Scott, R.N. Beech

4:15  183  Costs of Defense: Artificial Selection for Foliar Glucosinolate Content in Brassica rapa  
* K.A. Stowe, R.J. Marquis

4:30  184  mRNA Abundances in Drosophila melanogaster Selected for Postponed Senescence  
* H. Brar, M. Rose, J. Tower

4:45  185  Evolution of Cyto-Nuclear Genotypes in Experimental Populations of Drosophila melanogaster  
* M. Kiparsky, D. Rand

5:00  186  Sexual Size Dimorphism as a Correlated Response to Selection on Body Size: A Test of Quantitative Genetic The-  
* J. Reeve, D. Fairbairn

5:15  187  Experimental Studies on the Ancestry of tRNA Isoaccepting Groups  
* M. Saks, J. Sampson
Sunday, 9th July 1995: Afternoon

2:00 - 5:30

**Session 19  Molecular Evolution: Large-Scale Phylogeny**

Contributed Papers
Chair: Leiferi Zouros

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<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>2:00</td>
<td>The Universal Tree of Life: Can the Root Be Resolved?</td>
<td>J.R. Brown, W.F. Doolittle</td>
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<tr>
<td>2:15</td>
<td>The Evolutionary Origin of Sialine Molds, Mycetozoa, and Their Relation to Higher Eukaryotes</td>
<td>S.L. Baldauf, W.F. Doolittle</td>
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<td>2:45</td>
<td>Peculiarities of Molluscan Mitochondrial DNA</td>
<td>E. Zouros, C. Saavedra, D. Stewart, R. Hoeh</td>
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<td>3:00</td>
<td>Accelerated Rates of Molecular Evolution in Bivalves</td>
<td>D. Stewart, R. Hoeh, E. Zouros</td>
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<td>3:30</td>
<td>Break</td>
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<tr>
<td>4:00</td>
<td>The Molecular Evolution of 18s rDNA in Angiosperms</td>
<td>E.R. Waters, G. Bharathan</td>
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<td>4:15</td>
<td>Mitochondrial DNA and Monocot-Dicot Divergence Time</td>
<td>J. Larroche, P. Li, J. Bousquet</td>
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<td>4:30</td>
<td>Evolutionary History of Duplication Events in the Vertebrate Lactate Dehydrogenase Gene Family</td>
<td>D. Stock, J. Quattro, G. Whitt, D. Powers</td>
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<tr>
<td>4:45</td>
<td>Evolutionary Rate Heterogeneity in the Mitochondrial 16S rRNA of Teleost Fishes: Secondary Structural Constraints and Phylogenetic Implications</td>
<td>J. Alves-Gomes, A.M. Shedlock, M.G. Haygood</td>
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<tr>
<td>5:00</td>
<td>Relative Rates of Evolution of the Cytochrome-b Gene Among Rodents</td>
<td>T.A. Spradling, M.S. Hafner</td>
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</table>
Sunday, 9th July 1995: Evening

Leacock 132

8:00 - 9:00 pm

Session 20  ASN Presidential Address

Plenary
In Defense of Founder Flush Speciation
Montgomery Slatkin

Shatner Ballroom

9:00 - 11:00 pm

Session 21  Mostly Evolution

Poster

200  Outcrossing Rate, Neighbourhood and Effective Population Size in *Datura stramonium*  
* E. Cuevas Garcia, J. Nunez-Farfan

201  Effects of Deleterious Background Selection on Nucleotide Diversity  
* B. Charlesworth, M. Nordborg, D. Charlesworth

202  Evolutionary History of Planthoppers (Homoptera) Associated With the Hawaiian Silversword Alliance  
* G. Roderick, E. Metz

203  Making Faces: Increased Genetic Variability Following Founder Events in Happy Face Spiders  
* R.G. Gillespie, G.S. Oxford

204  The Effect of Forest Fragmentation on the Genetic Diversity of the Little Wood Satyr Butterfly (*Megistocymela*): Implications For Conservation Biology  
* K.A. Marshall

205  Programs for Calculating Relatedness and Parentage Using Single-Locus Genetic Markers  
* K. Goodnight, D. Queller

206  The Distribution of Transposable Elements on X Chromosomes from a Natural Population of *D. simulans*  
* S. Nuahdin

207  The Frequency and Geographical Distribution of the Mariner Transposable Element in Natural Populations of *Drosophila simulans*  
* A.L. Russell, R.C. Woodruff

208  Aging and the Evolution of Germline Heteroplasmy in *Drosophila melanogaster*  
* L.M. Kann, D.M. Rand

209  Patterns of Gene Flow in *Pinus contorta* Doug.
* R. Yang, F.C. Yeh

210  Maternal and Non-Maternal Components of Inbreeding Depression in *Phacelia*  
* R.F. Del Castillo

211  Diversity and Distribution of *Daphnia* Clones on the Alaskan North Slope (Toolik Lake Area)  
* R. H. Hagen, W. J. O'Brien

212  Natural Selection and Frequency Distribution of “Silent” DNA Polymorphism in *Drosophila*  
* H. Akashi, S.W. Scheaffer

213  mtDNA Haplotypes and Gene Flow in a Morphologically and Behaviorally Atypical Population of Sage Grouse  
* T.W. Quinn, N.W. Kahn, J.R. Young, C.E. Braun

214  Population Genetics and Ecological Variation of Tropical Tree Species along a Montane Gradient  
* M.P. Skupski, K.A. Schicrenbeck, M. Lieberman, D. Lieberman

215  Inbreeding and Relatedness in the Termite, *Nasutitermes corniger*  
* L. Atkinson

216  Quantitative Genetics of Resistance to Herbivores in *Salix sericea*, the Silky Willow  
* B.M. Rocche, R.S. Fritz

217  A Pleiotropic Model of Quantitative Variation and Phenotypic Evolution  
* Y. Tanaka

218  Detection of Linkage Using an F2 and a Recombinant Inbred Population  
* J. Shoemaker, B. Weir

219  A Comparison of Continuous and Discrete Population Growth Models and Their Effects on the Timing of Diapausa  
* R. Smock, W. Hazel
Sunday, 9th July 1995: Evening

220 Sources of Variation of the Sea Scallop (Placopecten magellanicus)
   * R. Jones

221 A Comparison of Continuous and Discrete Population Growth Models and Their Effects on the Timing of Diapause
   R. Smock, * W. Hazel

222 Phenotypic Plasticity in Sticklebacks
   * T. Day

223 Does Selection Over 15 Generations Using the Drug Ivermectin Affect the Life History Traits of a Parasitic Nematode?
   * J.M. Njoroge, M.E. Scott

224 The Effect of Genetic Variability on Small Populations of an Annual Plant
   * D. Koth

225 Patterns of Phenotypic Selection on Red Oak Subjected to Defoliation by Gypsy Moth
   * J.B. McGraw, C.C. Bennington, T.S. Byington

226 An Ecological Genetics Study of Anther Smut Infection of Silene virginica
   * S.L. Taliaferro, H.M. Alexander

227 Microsatellite and cDNA Marker Analysis in Sea Scallop Placopecten magellanicus, Reveal No Genetic Differences in Physiologically Distinct Populations
   B.M. Vercaenner, * B. GjeTvaj, C.M. Herbing, R.K. O’Dor

228 Impact of Genomic Interactions on Stress Resistance and Expression of Heat Shock Proteins in Hybrids of Poeciliopsis
   * P. d’Orion, R. Schultz, L. Hightower

229 Parental and Grandparental Effects on Components of Seed Size
   * E.P. Lacey, A.L. Case, S.E. Smith

230 Pseudo Self-Compatibility in Campanula rapunculoides
   * S.V. Mosquin, D. Vogler, A. Stephenson

231 Seasonal and Spatial Variation in Gall Morphology and Parasitoid Community in the Gall Midge, Asphondylia floccosa
   * K. Dixon, R. Lesma, J. Park, T. Craig

232 Distinguishing Chaos From Noise in Nematode Population Dynamics
   * P.C. Phillips

233 Frequency-Dependent Selection in Plants: an Experimental Approach
   * R. Castillo, C.A. Domínguez

234 Phenotypic and Genetic Diversity of Indigenous Rhizobium trifolii
   * J. Wernegreen, E. Harding

235 Genotypic Variation in Reproductive Strategies under Different Environmental Conditions in Allium vineale
   * M. Ronsheim, J. Bever

236 Implications of the High Recessive Lethal Frequency of Drosophila albomicans
   * H.Y. Chang, F.J. Lin

237 The Effects of Embryo Competition with Mixed Mating on the Genetic Load in Plants
   * R.G. Latta

238 Phenotypic Correlations in Selected Prey Fitness Traits: Are Trade-Offs Likely?
   * L. Hartt, J.W. Haefner

239 Somatically Active Transposable Elements and Lifespan of Drosophila species
   * A.G. Nikitin, R.C. Woodruff

240 Selection on Early Fecundity and the Correlated Response of Longevity
   * G. Miller, M.H. Gromko

241 Parasite-Induced Gigantism in a Snail: A Host Adaptation?
   * P. Ballabeni

242 Laboratory Evolution of Longevity in Bean Weevil (Acanthoscelides obtectus): Relationships Between Age-Specific and Density-Dependent Selection
   * O. Stojkovic, I. Gliksman, D. Milanovic

243 Laboratory Evolution of Longevity in Bean Weevil (Acanthoscelides obtectus): Selection for Early and Late Reproduction
   * I. Gliksman, D. Milanovic, S. Mikuljanac, O. Stojkovic, D. Seslija
Mapping Life History QTLs Using C. elegans Recombinant Inbred Strains: A Model System for Detecting Antagonistic Pleiotropy and Epistasis at the Single Locus Level  
* D.R. Shook, A. Brooks, T. Johnson

Ultrastructural Observations on the Myzorhynchus of a Tetraphyllidean Cestode From a Skate (Raja erinacea)  
* C. Keeling

Ethological Isolation, Habitat Selection and Small Marginal Populations: An Ecological Perspective of Evolution  
* R. Catchpole

How to Quantify Degree of Specialization  
* K. Iwas

Testing the Positive Selection Hypothesis of Colicin Evolution by Competition Experiments  
* Y. Tan, M.A. Riley

Use of Site-Directed Mutagenesis to Study the Evolution of Conserved Non-Coding Sequences at the Adh Locus of Drosophila melanogaster  
* J. Parsch, S. Tanda, W. Stephan

The Maintenance of Sex by Parasitism and Mutation Accumulation under Synergistic Epistasis  
* R.S. Howard

Estimating the Rate of Fixation of Favorable Mutations  
* M. Perlitz, W. Stephan

Are There Genetic Limits to Phenotypic Complexity?  
* J. Seger

Clusters of New Mutations and the Fate of Underdominant Alleles  
* H. Huaii, R.C. Woodruff

Sexual Differentiation in Salix arctica From the High Arctic: Implications for Response to Climate Change  
* S.E. Macdonald, M. Hunt Jones, G.H.R. Henry

Chemical and Mechanical Defense of a Tropical Shrub: Phenotypic Selection in Two Light Environments  
* C.L. Sagers

Competition, Plasticity and Selection in Marine Stickleback Colonization Events  
* J.R. Prichard, D. Schlueter

Role of Fluctuating Selection in Maintaining Genetic Diversity in Life History Traits: Models Meet Data  
* S. Elmer, N.G. Hairston Jr.

The Contribution of New Mutations to Genotype-Environment Interaction for Fitness in Drosophila melanogaster  
* J.D. Fry, S. Lee, T.F.C. Mackay

In Vitro Evolution of a Group I Ribozyme  
* M. Hanczyc, J. Matlow, R. Dorit

In Vitro Evolution: Selection for Novel Catalysis by the M1 Ribozyme  
* K. Cole, D. Young, R. Dorit

DNA Binding Factors for the Androgen Inducible RP2 Gene Differ among Mus Species  
* N. Singh, F.G. Berger

The Reproductive Tract Proteins of Drosophila: Species Differences, Sexual Selection, and Reproductive Isolation  
* A. Civetta, R.S. Singh

Influences by Neighboring Base Composition on Transversion-Transition Ratio in Non-Coding Regions of Chloroplast DNA  
* V.M. Oberholzer, B.R. Morton, M.T. Clegg

Interspecific Genetics of Female Preference: Inheritance of Phenotactic Behavior in Hawaiian Crickets  
* K.L. Shaw

Effects of Plant Hybridization on Resistance to Herbivores and a Pathogen of Willow  
* R.S. Fritz, S.J. Brunsfeld, B.M. Roche, C.M. Orians

Characterization of Hybrid Male Sterility in Drosophila  
* R.J. Kulahtinal, R.A. Morton, R.S. Singh

Interspecific Cuckoldry Among Sunfishes: A Consequence of Behavioral Miscues?  
* B.R. Konkle, D.P. Philipp

Maintenance of a “Selfish” B-Chromosome in a Mealybug: Data from Lab Cultures  
* U. Nur
Sunday, 9th July 1995: Evening

269  Predator-Prey Coevolution in a Metapopulation Model
    * A.M. Shumate

270  The Relationship between Mode of Transmission and Virulence in the Evolution of a Marine Parasite-Host System
    * G.S. Aebly

271  Mating Increases Female Condition but not Egg Productivity in the Locust Locusta migratoria
    * J. Cabrero, A. Castro-Lopez, A. Martin-Alganza, M.D. Lopez-Leon, J.P.M. Camacho

272  Somatic Condition is the Main Determinant of Female Mating Success in the Grasshopper Ephratacnes plorans
    * J.P.M. Camacho, A. Martin-Alganza, A. Castro-Lopez, M.D. Lopez-Leon, J. Cabrero

273  Female Meadow Voles Choose to Mate with Multiple Males
    * D. Berubeaux

274  Good Genes and Old Age: Do Old Mates Provide Superior Genes?
    * T.F. Hansen, D.K. Price

275  The Function of Seasonally Delayed Implantation: A Comparative Test of the Sexual Selection Hypothesis
    * T. Gardez, J. da Silva

276  QTL Cartographer: A Suite of Programs for Mapping Quantitative Trait Loci
    * C.J. Basten, B.S. Weir, Z-B. Zeng

    * S. Emerson

278  Evolution of Freshwater Adaptation: Mapping Physiological Traits onto a Molecular Phylogeny
    * C.E. Lee

279  Flight Morphology and Flight Metabolism: Allometry Within and Among 20 Species of Drosophila
    * P.T. Barnes, L.M. Bartl, M.I. Cocilovo

280  Evolution of Indirect Hyperparasitism in Perilampidae (Hymenoptera)
    * S. Perlman, D.C. Darling

281  The Concentrated Changes Test for Correlated Evolution: Effects of Tree Shape and of Including "White" Branches
    * P.D. Lorch, J. Eadie

282  Computer-Aided Simulation of Transposable Element Evolution
    * J.A. Foster, M. Barnett, J. Clough, W. Ireland, H. Wichman

283  Characterization of Transposable Element Activity in Heterochromatin: The P Element of Drosophila melanogaster
    * B.S. Haller, R.C. Woodruff

284  Evolution of Two Coexisting Lineages of Line-1 Transposable Elements through the Peromysine Radiation
    * N.C. Casavant, A. Sherman, H.A. Wichman

285  Phylogenetic Analysis of SINEs in Mus: Determination of whether "There B1 or There B2" Modes of Evolution
    * D.L. Russell, R.N. Lee, C.L. Neal, H.A. Wichman
Monday, 10th July 1995: Morning

Session 22  Recent Developments in the Analysis of Morphometric Data
Symposium
Chair: F. James Rohlf

8:30        286  The Morphometric Synthesis
* F.L. Bookstein
9:00        287  Geometric Morphometrics: Principles and Practice
* F.J. Rohlf
9:30        288  Fluctuating Asymmetries: Are They a Valid Measure of Developmental Precision?
* R. Palmer
10:00       Break
10:30       289  Foraging Habitat and Predation Effects on Geomorphic Variation in Threespine Stickleback
* J. Walker
11:00       290  A Comment on the Efficiency of Simplified Reports of Shape Differences Using Landmark Data
* F.L. Bookstein

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Session 23  Mutation and Evolution
Symposium
Chair: David Houle

8:30        291  Evolution of Rates of Spontaneous Mutation
* J. Drake
9:00        292  Mutation and Quantitative Variation in Drosophila
* T. Mackay
9:30        293  Inference of Mutation Rates and Distribution of Mutation Effects for Quantitative Traits
* P.D. Keightley
10:00       Break
10:30       294  Comparing Mutational Variability
* D. Houle
11:00       295  Deleterious Mutations: When Will Theory Finally Meet Data?
* A. Kondrashov
11:30       296  Mutation and the Evolution of Sex in RNA Viruses
* L. Chao

Macdonald Engineering Building 476

Session 24  Phylogenetics: Reptiles and Birds
Contributed Papers
Chair: Christopher Austin

8:30        297  Phylogeny of the Spiny Lizards (Scoleplorus): Molecular and Morphological Evidence
* J.J. Wiens, T.W. Reeder
8:45        298  Phylogeography of a Wide-Ranging Lizard (Phrynosoma douglassi) Inferred from mtDNA Sequences
* K. Zamudio, K. B. Jones
9:00        299  Green Blood and Adhesive Toe-Pads: Physiological and Morphological Evolution in South Pacific Scineid Liza:
* C. Austin
9:15        296  Phylogeny and Biogeography of Middle American Jumping Vipers, Atropoides
* P.T. Chippindale, L.K. Ammerman, J.A. Campbell

26
Monday, 10th July 1995: Morning

9:30  301  Origin of Hawaiian Honeycreepers as Indicated by DNA Sequence Data
* J. Groth

9:45  302  Molecular Phylogenetics and Evolution of Piranga tangeri
* K.J. Burns

10:00 Break

10:20  303  * Phylogeny of the Cuckoos (Aves: Cuculidae) Based on Behavioral and Ecological Characters
*  J. M. Hughes

10:45  304  * Hop, Step and Gape: Do the Social Displays of Pelecaniformes Reflect Phylogeny?
*  M. Kennedy, R. Gray, H. Spencer

11:00  305  Songbird Phylogeny: Issues Pertaining to Outgroups, Ingroups, and Ecophylogeny
*  F. Sheldon, F. Gill

11:15  306  Molecules and Morphology in Phylogenetic Reconstruction: an Example Using Manakins (Aves, Pipridae)
*  S.J. Hackett

11:30  307  Hybrid Origin versus Morphological Convergence in the Pomarine Jaeger: Evidence from Mitochondrial and Nuclear Genes
*  D. Marshall, A.J. Baker

11:45  308  Cytochrome B and the Higher-Order Evolution of Birds
*  T.P. Birt, V.L. Friesen, A.J. Baker

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5:30 - 12:00

Session 25  Quantitative Genetics

Contributed Papers
Chair: Anthony Zera

5:30  309  Dominance Variance: Associations with Selection and Fitness
*  P. Cnokrak, D. Roff

5:45  310  * Phylogenetic Analysis of the Evolution of Phenotypic Covariance Matrices: From Populations to Genus
*  S. Steppan

6:00  311  Selection on Sex Appeal: Variability of Correlated Responses
*  M.H. Gromko, J. McConnell

6:15  312  The Evolution of Genetic Correlations: An Analysis of Patterns
*  D. Roff

6:30  313  Laboratory Heritabilities: Reliable Estimates of Field Values or Gross Exaggerations?
*  I. Weigensberg, D. Roff

6:45  314  Dominance Variance in Inbred Pedigrees
*  F.H. Shaw

7:00  Break

8:00  315  A Diallel Analysis of Juvenile Traits in Nemathila menziesii
*  R.G. Shaw, G.A.J. Platenkamp

8:15  316  Determinants of Reproductive Traits in Nemathila menziesii: Analysis of an Extended Pedigree
*  D. Byers, R. Shaw

8:30  317  The Effect of a Variable Environment on Genetic Correlations in a Field Cricket
*  A.M. Simons, D.A. Roff

8:45  318  * Genetics and Development of a Butterfly Eyespot Pattern: How Selection for Eyespot Shape Influences Wing Shape
*  A. Monteiro

9:00  319  Selection on Insect Endocrine Traits: Response, Correlation and Evolutionary Implications
*  A. Zera
Monday, 10th July 1995: Morning

Macdonald Engineering Building 280

Session 26  Species and Speciation
Contributed Papers
Chair: Stephen Palumbi

5:30  320  Retrospection and Prospection in Definitions of Species
* D.A. Baum

5:45  321  Speciation and Gene Coalescence in Sea Urchins: Different Patterns in mtDNA, Nuclear Introns and Gamete Recognition Proteins
* S.R. Palumbi

9:00  322  Speciation Among Panamanian Snapping Shrimp: Tests of Divergence across the Isthmus
* C. Morrison

9:15  323  * Population Structure and Speciation in Appalachian Cave Spiders (Nesticus)
* M.C. Hedin

9:30  324  * Phylogeography and Host-Associated Speciation in Neochlamisus Leaf Beetles
* D.J. Funk

9:45  325  A Test of Reinforcement in Drosophila pseudoobscura and D. persimilis
* M.A. Noor

10:00  Break

10:30  326  Speciation by Sexual Selection in Drosophila melanogaster: Runaway Process in Laboratory Populations
* C. Wu, H. Hollocher, J. Lachance

10:45  327  Ecological Speciation in Sticklebacks
* T. Hatfield

11:00  328  Reproductive Isolation, Sympatric Speciation and Temperature: Host-Associated Fitness Tradeoffs in the Apple Maggot Fly
* J.L. Feder, J.B. Roethele, B. Wlazlo

11:15  329  Fruit Rot + Larval Development Rates=Directional and Balancing Selection in the Apple Maggot Fly (Rhagoletis pomonella)
* J.B. Roethele, J.L. Feder, B. Wlazlo

11:30  330  Multi-Locus DNA Sequence Studies of Speciation and Natural Selection in Humans and Great Apes
* J. Hey, N. Leahy

11:45  331  A Mitochondrial DNA Perspective on the Evolution of the Herring Gull and its Relatives
* R. Howson, D. Rand

Macdonald Engineering Building 497

Session 27  Numerical Taxonomy and Evolution
Contributed Papers
Chair: Francois Lapointe

10:30  332  Pattern and Tempo of Marsupial Evolution Based on DNA Hybridization
* J.A.W. Kirsch, F.-J. Lapointe

10:45  333  Construction and Validation of the Marsupial Tree From Multiple DNA Hybridization Matrices
* F-J. Lapointe, J.A.W. Kirsch

11:00  334  Uses of Landmark- and Outline-Based Morphometric Methods in Hawthorn and Termite Systematics
* T.A. Dickinson, T.G. Myles

11:15  335  Comparative Landmark Analysis of Various Oxyuridae Parasites of Primates and Rodents, Using the Patterns of the Caudal Bursa of the Males
* J. P. Hugot, M. Baylac

11:30  336  The Evolution of Periodical Cicadas during the Pleistocene
* J. Yoshimura

11:45  337  no title submitted
* J. Hey, N. Leahy
Monday, 10th July 1995: Morning

8:30 - 12:00

Session 28 Molecular Evolution: Estimation and Variation
Contributed Papers
Chair: Richard Kliman

8:35  338  Estimating Synonymous and Nonsynonymous Substitution Rates
  * S. Muse

8:45  339  Deduction of Genetic and Evolutionary Processes from DNA Migration Events
  * J.L. Blanchard, G.W. Schmidt

9:00  340  A Statistical Method for Detecting Areas of Gene Conversion in Multigene Families
  * F. Prat, G. Drouin

9:15  341  The Effects of Social and Geographic Structure on mtDNA Clocks and the Lineage Sorting Period: A Simulation Model
  * G.A. Hoelzer, J. Wallman, D.J. Melnick

9:30  342  Evolutionary Pharmacology: Classifying G-Protein Coupled Receptors
  * K. Rice, L.F. Kolzikowski

9:45  343  Multiple Levels of Change in a Tetramer Microsatellite
  * P. Pfundt, M. Berube, H. Jergensen, P. Arctander

10:00 Break

10:30  344  Base Composition Heterogeneity in Drosophila melanogaster
  * R.M. Kliman

10:45  345  Hot Spots for Insertions/Deletions in Hawaiian Drosophila Yolk Protein Genes and Phylogenetic Implications
  K. Ho, * E. Craddock, M. Kambysellis

11:00  346  Expression of Retinal and Non-Retinal Opsin in Crayfish
  * M.J. Brauer, K.A. Crandall

11:15  347  The Evolution of the Aldolase Genes and Pseudogenes in Australian Rattus
  * B.A. Williams, P.R. Baverstock

11:30  348  Evolution of Cytochrome Oxidase Subunit II in New World Monkeys
  * M.V. Ashley, B.L. Crump, J.E. Norman, E. Margoliash

11:45  349  Molecular Evolution and Allelic Variation in a Human Gene Family
  * S. Hoffman, P.F. Salguero

Macdonald Engineering Building 279

5:30 - 12:00

Session 29 Phylogenetics: Mammals
Contributed Papers
Chair: Steven Carr

8:30  350  Evolution and Phylogenetic Affinities among the Elusive Crocidurine Shrews of Kenya: Proteins Versus Morphology
  * L.J. McLellan, R. Sage

5:45  351  Phylogenetic Relationships Among Tamarins (Genus Saguinus)
  * S.C. Jacobs, A. Larson, J.M. Cheverud

9:00  352  Gibbon Phylogeny Inferred From Mitochondrial DNA Sequences
  * S. Zehr, M. Ruvolo

9:15  353  Are Flying Squirrels Monophyletic?
  J.M. Mercer, * V.L. Roth

9:30  354  Phylogeny of Caviomorph Rodents: Morphological and Molecular Evidence. Old Conclusions for New Reasons
  * A.H. Walton, R.L. Honeycutt, M.A. Nedbal

9:45  355  Mitochondrial DNA Sequencing and the Phylogenetic Position of the Springhare, Pedetes capensis
  * C. A. Matthee

10:00 Break

29
Monday, 10th July 1995: Morning

10:30  356  Molecular Systematics of New- and Old-World Deer: Classification, Biogeography, and Antlers
      * S.M. Carr

10:45  357  The Origins of Cetacea and Milk Casein
      * J. Gatesy

11:00  358  Combined Effects of Weighting and Species Sampling on Phylogeny Reconstruction: The Example of Cetaceans
      * M.C. Milinkovitch, J. Adachi, R. Leduc

11:15  359  Phylogenetic Analysis of Elephantidae Based on Mitochondrial DNA Sequences From Fossil Remains
      * H. Yang, E.M. Golenberg, J. Shoshani

11:30  360  Convincing and Congruent Molecular Evidence for an Aardvark/Elephant Shrew/Paenungulata Clade
      * M. Stanhope, C. Porter, M. Goodman

11:45  361  Molecular Systematics of Xenarthrans
      * J. Norman, M.V. Ashley

Redpath Museum Auditorium

8:30 - 12:00

Session 30  Evolution of Cichlids and Other Fishes

Contributed Papers
Chair: Thomas Kocher

8:30  362  Evolution of NDZ in East African Cichlids: A Detailed Look At Molecular Divergence
      * T.D. Kocher

8:45  363  Phylogeny of the Family Cichlidae Based on Several Complete Mitochondrial Gene Sequences
      * A. Meyer, P. Ritchie, G. Oth, T. Titus

9:00  364  Paleogeographic Evolution of Rift Lakes: Placing Constraints on Phylogenetic Hypotheses of Endemic Radiations
      * A. Cohen

9:15  365  Applications of Microsatellite Variation to the Evolutionary Biology of Malawi Cichlid Fishes
      * I. Kornfield, A. Parker

9:30  366  Microsatellite Markers for Mapping the Cichlid Genome
      * W. Lee, T.D. Kocher

9:45  367  Mating Systems, Parental Care and Diversification in a Neotropical Cichlid, Gymnogeophagus
      * P. Wimberger, R. Reis

10:00  Break

10:30  368  Diet-Induced Phenotypic Plasticity in Old World Cichlids
      * J.R. Stauffer Jr.

10:45  369  Aspects of Sympatric Speciation in Cichlid Fishes from Three Small Cameroonian Lakes
      * U. Schliewen, D. Tautz

11:00  370  Genetic Differentiation Between Inshore and Offshore Atlantic Cod (Gadus morhua) in the Northwest Atlantic: Microsatellite DNA Variation and Antifreeze Protein Level
      * D. Ruzante, C. Taggart, D. Cook, S. Goddard

11:15  371  A Comparison of Molecular Methods for Detecting Genetic Differences among Populations of Pacific Salmon
      * L. Park, P. Moran

11:30  372  A Phylogeographic Assessment of Lake Trout (Salvelinus namaycush) Postglacial Dispersal
      * C.C. Wilson

11:45  373  Geographic Variation in Molecular and Morphometric Characters of Atlantic Tarpon (Megalops atlanticus valenciennes): Subtle Differences Over the Ocean
      * A.L. McMillen-Jackson, T.M. Bert, T. Orscoy, H. Cruz-Lopez, S. Seyoum
Monday, 10th July 1995: Afternoon

Arts 125

Session 31 Numerical Taxonomy in Quantitative and Evolutionary Morphology
Symposium
Chair: Richard J. Jensen

Panel Discussion: Numerical Taxonomy in Quantitative and Evolutionary Morphology

Leacock 26

Session 32 The Evolution of Specialization
Symposium
Chair: May Berenbaum

1:00 375 Introduction: Specialization, Speciation, and Speculation
* M. Berenbaum

1:15 376 The Evolution of Specialization: Are "Trade-Offs" Overrated?
* J. Fry

1:30 377 Evolution of A Generalist Genotype - Assessing the Adaptiveness of Phenotypic Plasticity
* K. Spitz

1:30 378 Break

1:45 377 Evolution of A Generalist Genotype - Assessing the Adaptiveness of Phenotypic Plasticity
* K. Spitz

2:00 378 Mixing Community-Level and Phylogenetic Approaches to Understand the Coexistence of Generalists and Specialists in Multiple Food Webs
* M. McPeek, J. Brown

2:30 379 The Phylogenetics of Specialization: Inferences From Insects
* B. Wiegmann

5:00 380 Concluding Remarks
* M. Berenbaum

Macdonald Engineering Building 279

Session 33 Quantitative Genetics of Flies and Plants
Contributed Papers
Chair: Marta Wayne

2:00 381 Is the Response to Short Term Selection on Bristle Number in Drosophila due to Frequency Changes of Polymorphic Alleles at Neurogenic Loci?

2:15 382 Genetic and Morphometric Analysis of an Interspecific Difference in Posterior Lobe Shape in Drosophila
* J. Mercer, J.J. Liu, L. Stum, G. Gibson, C. Laurie

2:30 383 Quantitative Genetics of Ovariiole Number, a Model Life History Trait in Drosophila melanogaster
* M.L. Wayne, L.M. McIntyre, T.F.C. Mackay

2:45 384 Quantitative Genetic Structure in Clarkia Populations: Where Have All the Good Genes Gone?
* R.H. Podolsky

3:00 385 QTL Influencing Heterosis and Mating System in Mimulus
* J. Dole, R. Kesseli

3:15 386 Natural Selection and Genotype-By-Environment Interaction in Wild Strawberry Populations
* D. Pavek, T. Mitchell-Olds

3:30 Break

4:00 387 Spontaneous Mutational Variation in Quantitative Traits of Arabidopsis thaliana
* J. Ottesen, R.G. Shaw

4:15 388 Spontaneous Mutation in Arabidopsis: Its Genomic Rate and Effects
* S.T. Schultz, J.H. Willis
Monday, 10th July 1995: Afternoon

4:30 389  QTL Mapping of Epistasis in Arabidopsis thaliana
* L. Dorm, T. Mitchell-Olds

4:45 390  Genetic Variation in Life-History Traits within and among Populations of Impatiens capensis
* C. Paoliotti, K.E. Holsinger

5:00 391  Response to Lethal Selection against Chasmogamous Flowering in a Natural Population of Impatiens pallida
* J. Gross, B. Husband, S. Stewart

5:15 392  Quantitative Genetics of Floral Traits in Ipomopsis aggregata: a 9 Year Field Experiment
* D.R. Campbell

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2:00 - 5:30

Session 34 Molecular Evolution and Phylogeny: Insects
Contributed Papers
Chair: Neil Davies

2:00 393  Backswimmer Diversity and Community Structure along a Latitudinal Gradient (Heteroptera: Notonectidae)
* E. Larsen

2:15 394  A Molecular Phylogeny of the Drosophila willistoni Sibling Species Group
* J.M. Gleason, E.A. Carew, J.R. Powell

2:30 395  Using Multiple Gene Regions to Reconstruct Phylogenetic Relationships within the Drosophila melanogaster Species Group
* V. Schawarooh, R. DeSalle, G. Simmons

2:45 396  * Molecular Systematics of Drosophila repleta Group Species
* R. Baker, W.B. Heed, W.J. Eges, R. Desalle

3:00 397  Evolutionary Relationships among mtDNA Haplotypes of a South American Malaria Mosquito
* J. Conn, A. Cockburn, S. Mitchell, J. Seawright

3:15 398  The Molecular Phylogeny of Tiger Beetles (Cicindelidae): Character Evolution in Ribosomal RNA Genes and Implications for Sequence Alignment
* A. Vogler

3:30  Break

4:00 399  Vicariance or Dispersal? Using Genetic Data to Explain the Subarctic/Alpine Distribution of Lasioglossum boreale (Halictidae Hymenoptera)
* J.S. Taylor, L. Packer

4:15 400  Phylogenetic Study of Apocrita (Hymenoptera) with Emphasis on Wing Venation
* A. Roy, M. Sharkey

4:30 401  Behaviour, Molecules, and Morphology Combined for Phylogenetic Study of Social Wasps
* J. Wenzel

4:45 402  Genetic Evolution among Species of the Genus Naso (Acanthuridae: Nasinae) from Guam
* C.L. Dayton

5:00 403  * Molecular Evolutionary Dynamics in Pierid Butterflies
* D.D. Pollock

5:15 404  The Historical Biogeography of West Indian Butterflies
* N. Davies
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**Session 35  Comparative Evolutionary Biology: Methods and Results**
Contributed Papers
Chair: Mark Westneat

2:00  405  A Microevolutionary Perspective on Comparative Methods
* T.F. Hansen, E.P. Martins

2:05  406  Conducting Phylogenetic Comparative Studies when the Phylogeny is Unknown
* E.P. Martins

2:10  407  Inference and Fallacious Reasoning in Studies of Character Evolution: to Include or Exclude the Characters of Interest during Tree Reconstruction?
* K. de Queiroz

2:15  408  Character Correlation in Phylogeny: Examples Using Biomechanical and Life History Data
* M. Westneat

2:20  409  Where Phylogeny Meets Ecology: Character State Evolution in the Genus *Daphnia*
* J.K. Colbourne, M.J. Beaton, P.D.N. Hebert

2:25  410  Evolutionary Comparative Analyses of Plant Range Size Using the Floras of Great Britain and Crete
* C.K. Kelly, Y. Hoff

2:30  Break

2:35  411  * The Roles of Historical Constraints and Adaptation in the Evolution of Behavior among a Tribe of Ant-Guest Beetles
* J.A. Danoff-Burg

2:40  412  Phylogeny and the Evolution of Nonfertilizing Sperm in the *Drosophila obscura* Group
* R. Snook

2:45  413  Evolution of Ecological Types and Eye Dimensions in Garter Snakes
* A. de Queiroz

2:50  414  Avian Brain-Body Size Relationships: Influence of Taxonomic Level
* P.M. Nealen, R.E. Ricklefs, J.M. Starck

* D. Ackery, M. Donoghue

3:00  416  Statistical and Phylogenetic Analyses for Allometric Evolution of Scapula Size in Terrestrial Squirrels
* D. Swiderski

Macdonald Engineering Building 497

**Session 36  Topics in Population Genetics**
Contributed Papers
Chair: Helene Glemet

3:00  417  Genetic Structure and the Evolution of Self/Nonself Recognition in Hydroids
* R. Grosberg, D. Levitan

3:05  418  Clonal Variation in Life History and Biochemical Composition of the Euryhaline Sea Anemone *Haliplanella lineata*
* M. McManus, W.E. Zamer, C. Rowell

3:10  419  Taxonomic Status and Population Genetics of the *Lampsilis hydiana* Species Complex (Bivalvia: Unionidae)
* J.L. Haynes, T.F. Turner, J.C. Trexler, D.N. Kuhn

3:15  420  Stability and Selection: Long Term Changes in the Genetic Structure of a *Daphnia* Population
* D.G. Stirling

3:20  421  "Adaptive" Zonation of Allozyme Variants in the Intertidal Acorn Barnacle *Semibalanus balanoides*
* P. Schmidt, D. Rand

3:25  422  Evolutionary Significance of Mitochondrial Introgression in Fish (*Salvelinus fontinalis*) Assessed by Physiological Performance
* H. Glemet, P. Blier, L. Bernatchez
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| 4:00  | 423 The Association Between Life History and Gene Flow in a Diverse Group of Stream Dwelling Fishes, the Darters (Pisces:Percidae)  
  * T. Turner, J. Trexler |
| 4:15  | 424 Microsatellite Analysis of Maternity in a Species with Male Pregnancy (Syngnathus scovelli)  
  * A.G. Jones, J.C. Avise |
| 4:30  | 425 The Importance of a Phylogenetic Perspective: Analysis of Differentiation within the Anolis marmoratus Complex  
  * C. Schneider |
| 4:45  | 426 RAPD PCR Data and Variation in Inbreeding and Inbreeding Depression among Full Sib Families in the Red Flour Beetle Tribolium castaneum  
  * L. Pray |
| 5:00  | 427 Adaptive Radiation and Molecular Phylogenetics in the High-Elevation Tropical Andean Genus Espeletia (Asteraceae)  
  * J.T. Rauscher |
| 5:15  | 428 Pollen-Mediated Gene Flow in the Tropical Pioneer Tree, Cecropia obtusifolia  
  * S. Kaufman, E. Alvarez-Buylla, P. Smouse |

Macdonald Engineering Building 280

2:00 - 5:30

Session 37 Genetic Population Structure I

Contributed Papers  
Chair: Sergio Matioli

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| 2:00  | 429 The Relationship Between Dispersal and Gene Flow: Lessons From Comparative Life History Studies  
  * A.J. Bohonak |
| 2:15  | 430 Estimation of Migration Rates and Effective Population Sizes Using Coalescent Trees in a Two-Population Model  
  * P. Beerli |
| 2:30  | 431 Phylogenetic Analysis of Natural Variation in Enzyme Expression  
  * V. Pierce, D. Crawford |
| 2:45  | 432 Genetic Variation among Populations of Gambusia hubbsi on Andros Island, Bahamas  
  * M.D. Schug, J.F. Downhower, P.A. Fuerst, L.P. Brown |
| 3:00  | 433 Evolution of Geographic Variation Patterns in Some Caribbean Birds  
  * N. Klein |
| 3:45  | 434 The Genetical Basis of Morphological Differentiation of Drosophila mercatorum Populations  
  * S.R. Matioli, A.R. Templeton |
| 3:30  | Break |
| 4:00  | 435 Genetic Characterization of Atlantic and Gulf of Mexico Populations of the American Oyster  
  * M. Harc, J.C. Avise |
| 4:15  | 436 Implications of Genotype-Specific Spawning Strategies on the Genetic Structure of a Hybrid Population of Marine Mussels  
  * C.L. Secor, T.J. Hilbish |
| 4:30  | 437 Paternal Mitochondrial DNA Differentiation Far Exceeds Maternal Mitochondrial DNA and Allozyme Differentiation in the Freshwater Mussel Anodonta grandis grandis  
  * H. Liu, J.B. Mitton |
| 4:45  | 438 Variation in Cytochrome Oxidase I(mtDNA) Sequence in a Marine Copepod: Geographic Structure and Evidence for Functional Significance  
  * R.S. Burton |
| 5:00  | 439 Population Structure of the Western Black-Legged Tick, Ixodes pacificus (Acari:Ixodidae)  
  * D. Kain |
| 5:15  | t.b.a. |
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Redpath Museum Auditorium

**Session 38  Biogeography and Macroevolution**
Contributed Papers
Chair: John Alroy

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<td>Complex Phylogeographic Pattern in the Carib Grackle</td>
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<td>G. Seutin, J. Hunt, R.E. Ricklefs, E. Barningham</td>
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<td>2:15</td>
<td>An mtDNA Assessment of the Avian Colonization of Barbados</td>
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<td>I. Lovette, G. Seutin, R.E. Ricklefs, E. Barningham</td>
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<td>2:30</td>
<td>The Simultaneous Diversification of Echimyid Rodents (Caviomorpha): A Star-Phylogeny Based on Complete Cytochrome b Sequences</td>
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<td>M. Lara, J.L. Patton, M.N.F. da Silva</td>
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<td>2:45</td>
<td>Genetic Structure of Gymnures (Mammalia: Erinaceidae) on Continental Islands: Historical Effects of Fragmentation</td>
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<td>M. Ruedi, L. Fumagalli</td>
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<td>3:00</td>
<td>A Test of Pleistocene Montane Refugia Using mtDNA Divergence among Highland Peromyscus mexicanus Species Group Taxa</td>
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<td>P.J. Cooerden de Groot, M.D. Engstrom</td>
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<td>3:15</td>
<td>Macroeconomics and Macroevolution: Is Submarine Volcanism the Key to Innovation and Diversification?</td>
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<td>G. J. Vermeij</td>
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<td>4:00</td>
<td>Macroevolution Reflected in the Shapes of Evolutionary Trees: Patterns in Tree Balance with Variable and Evolving Speciation Rates</td>
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<td>S.B. Heard</td>
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<td>4:15</td>
<td>The Radiation of Modern Birds Predates the K/T Boundary: Molecular Evidence</td>
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<td>A. Cooper, D. Penny</td>
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<td>4:30</td>
<td>Is Mammalian Diversity an Integrated Evolutionary System?</td>
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<td>J. Alroy</td>
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<td>4:45</td>
<td>A Simple Measure of Developmental Complexity</td>
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<td>D.W. McShea, P.D. Gingerich</td>
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<td>5:00</td>
<td>Testing Higher-Taxon Innovation in Rugged Fitness Landscapes: The Fossil Record</td>
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<td>G. Ebble</td>
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<td>5:15</td>
<td>Phylogenetic Analysis of the Zosterophyllumipta: Prospects and Pitfalls of Doing Cladistics With Lower Devonian Plants</td>
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<td>D.P. Jensen, P.G. Gensel</td>
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**Session 39  Sexual Selection: Mates and Mating**
Contributed Papers
Chair: Margaret Pakec

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<td>Mate Recognition in a Unisexual/Bisexual System of Poeciliid Fish</td>
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<td>M.D. Ryan, L.A. Dries, P. Batra, D.M. Hillis</td>
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<td>2:15</td>
<td>Mating Success in the Milkweed Beetle Tetraopes tetrapolphalimus</td>
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<td>D. Losfvedt</td>
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<td>2:30</td>
<td>The Influence of Female Size and Population Origin on Male Mating Behaviors in the Sailfin Molly, Poecilia latipinna</td>
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<td>M.B. Pakec</td>
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<td>2:45</td>
<td>Genetics of Pheromone Production and Response in the Turnip Moth, Agrotis segetum</td>
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<td>S. LaForest, W. Wu, C. Losfstedt</td>
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<td>3:00</td>
<td>Male genital Modification: A Sexual Selection Interpretation</td>
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<td>R. Rowanchilde</td>
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3:15  458  * La Saboteuse: A Unifying Theory of Sexual Dimorphism in Animals Based on Intraspecific Male-Female Competition  
* J.N. Abraham

3:30  Break

4:00  459  The Effect of Inflorescence Size on Male Fitness; Experimental Tests with Zigadenus paniculatus  
* S.K. Emms, A.A. Snow, D.A. Stratton

4:15  460  Potential Mechanisms of Hummingbird-Mediated Selection on Flower Color in an Ipomopsis Hybrid Zone  
* E.J. Melendez-Ackerman, D.R. Campbell

4:30  461  Morphology and Density as Pollination Cues in a Sexually-Deceptive Orchid  
* S.N. Handel, A.J. Beattie

4:45  462  Natural Selection on Wild Radish Floral Traits: Measurements Using Estimates of Lifetime Male Fitness Derived from Genetic Paternity Analysis  
* J. Conner, S. Rush, S. Kercher, P. Jennett

5:00  463  Pollen Competition in Turnera ulmifolia (Turneraceae)  
* A.M. Baker, J.S. Shore

5:15  464  Costs of Producing Long Sperm in Drosophila  
* S. Pitnick, T. Karr, T. Markow, G. Spicer

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Session 40  NT Presidential Address

Plenary  
New Avenues in the Numerical Study of Behaviour  
P. Legendre
Monday, 10th July 1995: Evening

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5:00 - 9:00 pm

Session 41  SSB Presidential Address
Plenary
Salvador Dali, Flying DNA, and the Parametric Bootstrap
D.M. Hillis

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Session 42  Mostly Systematics
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465  Allozyme Variation in Horse Mackerel (Trachurus trachurus: Carangidae) from the Gulf of Vizcaya and the Mediterranean Sea
*M. Soriano, A. San Juan

466  Initial Characterization of Microsatellite Polymorphism and Differentiation in Drosophila melanogaster
*K. Wetterstrand, C. Aquadro

467  Genetic Structure in an Island Population of Fluctuating Size with Immigration
*B. Ramala

468  Genetic Structure of Drosophila ruberrina (Diptera: Drosophilidae)
*S. Fang, H. Y. Chang, F. J. Lin

469  Population Genetic Structure of a Natural Metapopulation of the Greater Wax Moth, Galleria mellonella (Lepidoptera: Pyralidae)
*A. McMillan

470  Mitochondrial DNA Variation in Mytilus trossulus from the Gulf of Gdansk (Southern Baltic)
*R. Wenn, D.O.F. Skibinski, M. Pempera

471  Genetic Structure of Butterfly Populations from the Jethys Complex (Lepidoptera: Pupilionoidea: Enantia)
*A. Castaneda, D. Pinero

472  Population Structure in Melanochromis: Evidence from Simple Sequence Loci
*J.A. Markert, T.D. Kocher, J.R. Stauffer, N.J. Bowers

473  Population Structure of the Lichen Grasshopper Trimerotropis saxatilis (Orthoptera: Acrididae)
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474  Evidence From Microsatellites and Mitochondrial DNA Sequences for Population Subdivision in Beluga Whales Delphinapterus leucas
F. Buchanan, J. Brown, L. Postma, M. Friesen, *J. Clayton

475  The Edge-Effect in Concerted Evolution of Tandem Repeats
*J. Townsend, D. Rand

476  Evolution and Expression of Anthocyanin Genes in Ipomoea purpurea (Morning Glory)
*B.C. McCaig, M. Durbin, M.T. Clegg

477  Molecular Studies of Two Allozyme Loci in Populations of Leavenworthia (Brassicaceae)
L. Zhang, *F. Liu, M. Kreitman, D. Charlesworth

478  Daphnia Down Under II: Interspecific Hybrid Swarms in an Ancient Species Complex
*C.C. Wilson, P.D.N. Hebert

479  Cytogenetic and EOD Studies in Weakly Electric Fishes Belonging to the Genus Gymnotus (Pisces: Siluriformes)
*F.M.C. Fernandes-Matioli, L.F. Alacida-Toledo, S.A. Toledo Filho

480  Microsatellites in the African Cichlid Astatoreochromis alluaudi: Cloning Characterization and Potential Application
*L. Wu, M. Chandler, L. Kaufman, P.A. Fuerst

481  Genetic Variation in Shortleaf Pine (Pinus echinata Mill.)
*M.A. Edwards, J.L. Hamrick

482  Comparative Study of the Chorionic Ultrastructure in the dunni Subgroup and Related Groups in the Genus Drosophila
*L.J. Resto
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483 Computer Selection Model of LDH-B Allozymes in Fundulus heteroclitus
L. DiMichele, *E. Williamson

484 Are Rates of Molecular and Morphological Evolution Really Decoupled? Evidence from Eight Taxa
* K. Orland

485 Correlations between Allozyme Genotype and Physiological Performance in Randombred Laboratory House Mice
* P.A. Carter, T. Garland Jr., M.R. Dohm, J.P. Hayes

486 Morphometric Analysis of Neochlamisus (Coleoptera: Chrysomelidae): Inferences on Host Races and Sexual Dimorphism
* D.C. Adams, D. Funk

487 Characterization of Microsatellite Loci and Determination of Kinship in the Salamander Hemidactylium scutatum (Caudata: Plethodontidae)
* T.T. Knight, K.M. McGrath, L.A. Reid, R.N. Harris

488 A Process Approach to Teaching Science Content to School Teachers: An Evolutionary Biologist’s Involvement
J. Keating, *J. Ihara

489 101 Gondwanians: the Tapestry of Marsupial Phylogeny
* J.A.W. Kirsch, F.J. Lapointe

490 Biology of Xylocopa violacea (L): Male and Female Ethology During Mating Period (Hymenoptera:Anthophoridae)
* S. Vicidomini

491 Variation in the Sexual Behaviour of Male Guppies (Poecilia reticulata) in Response to Population Density and Sex Ratio: Field Manipulations
* H. Rodd

492 Genetics of Adaptive Learning in Drosophila melanogaster
* Y. Shin, R. Bailey

493 Influence of Natural Selection on Food Learning in Drosophila melanogaster
* A. Biggs

494 Ectoparasites and Old Nests: Effects on Nest-Site Selection in House Wrens
* C.F. Thompson, B.A. Theising, C.M. Gratton, A.J. Facejka

495 Molecular Insight to Eusocial Mating System of Termites
* G.J. Thompson, P.D.N. Hebert

496 Phylogeny of the Genus Aphelocoma
* J. Brown, S. Li

497 Morphological change in the Woodland Deer Mouse (Peromyscus maniculatus) from the Upper Peninsula of Michigan: 1909-1990
* L. Hester

498 Morph-Specific Proteins in Distylous Turnera
* A. Athanasiou, J. Shore

499 Phylogenetic Analysis of Iridaceae Using a Chloroplast DNA Intergenic Spacer and the rps4 Gene
* T.T. Souza Chies, S. Nadot, G. Bittar, B. Lejeune

500 The Evolutionary Origin of Green Lacewings of the Genus Chrysoperla: Testing Alternative Hypotheses Using Molecular Data
* M.M. Wells

501 Small Subunit Ribosomal RNA Gene Phylogeny of the Haplosporidia (Protista: Alveolata)
* B.S. Flores, M.E. Siddall, N.A. Stokes, E.M. Burreson

502 Relationships Between Synapomorphy, Branch Length, and Bootstrap
* P. Darlu

503 Phylogeny Reconstruction in Cichlids, Based on Scale Characters
* E. Lippitsch

504 High Resolution Genetic Markers and the Analysis of Darwin’s Finch Populations
* J. Freeland, P.T. Boag

505 The Tree of Life: A Distributed Internet System for Information about Phylogeny and Diversity
* D. Maddison, W. Maddison

506 Performance of Total Evidence when Confronted with Data Inconsistency Incongruity and the Potential for Long-Branch Attraction
* D.M. McElroy
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507  Examining Patterns of Organismal Diversity Using a Combined Null Model for Phylogenetic Tree Node Analysis  
    * N.J. Gompper

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509  Phylogenetic Analysis of the Genus *Fraxinus* Based on Nuclear rDNA ITS Sequences  
    * S. Jeandrotz, A. Roy, J. Bousquet

510  Moth Phylogeny Based on Two Nuclear Genes: Eh-1a and DDC (Lepidoptera: Noctuidae)  
    * S. Cho, A. Mitchell, Q. Fang, J.C. Regier, C. Mitter

511  A Molecular Phylogeny of the Subgenus Sophophora Using Nuclear and Mitochondrial Genes  
    * P. O'Grady, M. Kidwell

512  Development of Node-Zero: A Computer Program to Ease the Analysis of Molecular Sequence Data  
    * T. Oakley

513  A Comparison of Populations of the Malaria Vector *Anopheles darlingi* Using ITS2 Sequence  
    * D.S. Curland, J. Danoff-Burg, J. Conn, M. Sibajev, H. Momen

514  Systematics and Evolutionary Biology of the *Drosophila quinaria* Group  
    * G. Spicer, J. Jansenke

515  Cytochrome b Phylogeny of Fowl (Aves: Anseriformes, Galliformes)  
    * J. Marshman

516  The *Bactrocera xanthodas* Species Complex: Variation According to 18S rRNA and Cytochrome b Sequences  
    * P. Hoeben, J Ma, D. Drew

517  A Phylogenetic Hypothesis of the Origin and Evolution of the Estuarine Genus *Polymesoda* (Rafinesque, 1820)  
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    * H. Severeyn, Y. Itauna de Severeyn, J. Ewald

518  Approach to the Phylogeny of Atinellidae (Porifera: Demospongea) Using Molecular and Morphological Data  
    * B. Alvarez

519  Phylogeny Reconstruction of the Picidae Using 12S mt rRNA Sequences  
    * D.M. Webb, W. Moore

520  Molecular Phylogeny and the Evolution of Reproductive Systems in the Genus *Silene* (Caryophyllaceae)  
    * C. Desfeux, B. Lejeune, P.H. Gouyon

521  Phylogenetic Placement of the Vu Quang Ox Based on Multiple Genetic Loci  
    P. Arciandier, * J. Gatesy

522  Phylogenetic Analysis of Lake Victoria Cichildae Derived from rRNA Internal Transcribed Spacer One (ITS 1)  
    * G.C. Booteon, L. Kaufman, M. Chandler, P.A. Fuerst

523  Phylogeny of the Sturgeon Derived from 18S rRNA Sequences  
    J. Kretiger, T. Cavender, P.A. Fuerst

524  Phylogenetic Relationships in Noctuids Based on a New Nuclear Gene: Dopa Decarboxylase (DDC)  
    Q. Fang, * J.C. Regier, C. Mitter, R. Poole

525  Molecular Phylogenetic Relationships among Mosquitoes of the Genus *Anopheles*  
    * B. Garcia, K. Mathiopoulos, A. Caccone, J. Powell

526  Phylogeny of Inbred Mice: Are Microsatellites Phylogenetically Useful Characters?  
    * P. Kennedy, E. Routman

527  Linking Molecular Sequence Data to Specimen and Collection Data: The Development and Implementation of the  
    "Sequences, Sources, Taxa" (SST) Database  
    * C.J. Bult, J.A. Blake, A.R. Kerlavage, C.A. Fields

528  Phylogenetic Relationships among Chrysomelidae Taxa Inferred from Mitochondrial DNA Sequence Data  
    * T.H. Hsiao

529  Phylogeography of Alaskan Brown Bears  
    * G.F. Shields, S.L. Talbot

530  The Evolution of Allorecognition in Ascidians: A Molecular Phylogeny  
    * C.S. Cohen

531  Origins of Unique Parapatric Lake-Stream Species Pairs of Threespine Stickleback (*Gasterosteus aculeatus*) as  
    Evidenced by Molecular Data  
    * C. Thompson, J. D. McPhail
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532 Genetic Structuring in Three Sub-Species of San Joaquin Kangaroo Rat (*Dipodomys nitratoides brevinasus, *D. exilis*) and *D.n. nitratoides* 
  * R.J. Robertson

533 A Study of Transatlantic Phylogeography in Littoral Marine Species of the Phylum Nemertea 
  * J.L. Norenburg, A.D. Rogers, C. Bustamante, J.D. Ferraris

534 Comparative Utility of Mitochondrial Gene Sequences in Cyclophyllideans (Cestoda) Systematics 
  * J. Mariaux, M. Zehnder

535 Molecular Systematics of Orchidaceae: Analysis of ITS I/II and 25S rDNA Sequences 
  * I. Kohnen, H. Dietrich, A. Rosenthal

536 Assessment of Phylogenetic Relationships among Polychaetes Using Partial rDNA Sequences 
  * S. Nadot, A. Grant

537 Molecular Phylogeny of Right-Eyed Flounders Based on Mitochondrial coxl Gene 
  * J.G. Nickerson, J.A. Cooper, G. Drouin, F. Chapleau

538 Molecular Evolutionary Rates of Mitochondrial Cytochrome Oxidase I vs Cytochrome b in a Group of Piciform Birds 
  * V. DeFilippis, W. Moore

539 The Evolution of Microsatellites in Humans and Chimpanzees 
  * J.C. Garza, M. Slatkin, N.B. Freimer

540 Evolution and Duplication of the *Arabidopsis* Actin Gene Family 
  * A.V. Vitale, J.M. McDowell, R. Price, R.B. Meagher

541 Microsatellite loci in the Monkeyflower 
  * P. Awadalla, K. Ritland

542 RAPD Analysis of the Genetic Population Structure and Evolution of the Tilapiine Species (Pisces: Cichlidae) of Lakes Victoria, Albert and Edward (Uganda) 
  * W. Mwanja, L. Kaufman, M. Chandler, P.A. Fuerst

543 Inferences About the Origin of a Field Cricket Hybrid Zone From a mtDNA Phylogeny 
  * C.S. Willett, R. Harrison

544 Stock Assessment of the Geographically Widespread Endemic Long-Finned Eel *Anguilla dieffenbachii* in New Zealand 
  * L. Dijkstra, D. Jellyman

545 Phylogenetic Reconstruction of *Drosophila immigrans* Species Group Inferred from both Morphological and Molecular Data 
  * C. Ting, S. Tsaur, F. Lin, H. Chang

546 Comparative Phylogeographic Analysis of the Woodpeckers Based on DNA Sequences From Mitochondrial Cytochrome B and A Nuclear-Encoded Intron From Fibrinogen 
  * T. Prychitko, W. Moore

547 Evolutionary Relationships of the Grasses (Poaceae) Based on Molecular Data, Cytogenetic Evidence and Geographic Distribution 
  * C. Hsiao, N.J. Chatterton, K.H. Assay
Tuesday, 11th July 1995: Morning

Leacock 26

Session 43 Molecular Mechanisms of Evolutionary Adaptation
Symposium
Chair: Douglas L. Crawford

5:30 - 12:00

5:30  548  Molecular Evolution of Compensatory Variation in Ldh-B Transcription Rates
* D.L. Crawford

9:00  549  Functional Effects of Adh Polymorphisms in Relation to Their Patterns of Variation in Natural Populations
* C.C. Laurie

9:30  550  Experimental Investigation of the Molecular Causes of Natural Selection
* D. Dykhuisen

10:00 551  Molecular Mechanisms Underlying the Evolutionary Modification of Mammalian Gene Expression: the Mouse Kidney Model
* F.G. Berger

10:30 552  The Evolution of Glutamine Synthetase Expression and Regulation of Urea Synthesis in the Marine Toadfishes
* P.J. Walsh

11:00 553  Suppression of Gene Expression and Protein Turnover under Anoxia: Bioenergetic Implications for Invertebrate Dormancy
* S. Hand

11:30 554  A Multilevel Approach to the Significance of Genetic Variation in Alcohol Dehydrogenase of Drosophila
* P. Heinstra

Redpath Museum Auditorium

Session 44 Phylogenetics: Fish and Amphibians
Contributed Papers
Chair: Felix Breden

8:30 - 12:00

8:30  555  Evidence on the Origin of Tetrapods Based on 28S rRNA Sequences
R Zardoya, * K. Noack, A. Meyer

8:45  556  Molecular Phylogeny of the Guppy and Related Species
* F. Breden, J. Taylor

9:00  557  Molecular Systematics of the leptorhaphis Group of Poeciliopsis (Pisces:Poeciliidae) and Relationships with Endangered Populations in Arizona
* O. Sanjur, C. Di Meco, R.C. Vrijenhoek

9:15  558  * Molecular Phylogeny of Snook (Centropomus), a New World Genus
* M.D. Tringali, T.M. Bert

9:30  559  Antarctic Convergence and Speciation Pattern of Antarctic Fish
* T. Patacchi, L. Bargelloni, S. Marcato

9:45  560  * To Combine or not to Combine: a Case Study from the Lungfish, Coelacanth and Tetrapods
* K.R. Toal, B.I. Crother

10:00  Break

10:30 561  * A Molecular Phylogeny of Piranhas Based on Mitochondrial DNA Sequences
* G. Orti

10:45 562  * Ependymin: a Nuclear Phylogenetic Marker for Early Divergences among Euteleost Fishes
* G. Orti

11:00 563  Complete Sequence of the Mitochondrial Genome of a Lungfish, Protopterus dolloi
* R. Zardoya, A. Meyer

11:15 564  Frog Trees and DNA Evolution: How do You Know when You Have the" Right" Tree?
* B. Mable

11:30 565  Weighting 12S for Congruence with the Combined Analysis of Frog Relationships
* K. Kjer

11:45 566  Phylogenetically Informative Genes for the Microhyldids of Australasia
* D. Bickford
Tuesday, 11th July 1995: Morning

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8:30 - 12:00

Session 45 Coevolution
Contributed Papers
Chair: Bernard Crespi

8:30  567  Reciprocal Natural Selection on Host-Parasite Phenotypes: A Prerequisite for Coevolution

8:45  568  The Genetic Structure of Coevolving Host-Parasite Populations
       * M. Dybdahl, C. Lively

9:00  569  Insect-Virus Coevolution
       * M.L. Milks

9:15  570  The Coevolutionary Stability of Predator-Prey Systems
       * P. Abrams, H. Matsuda

9:30  571  Coevolution in the Chaoborus americanus-Daphnia pulex System: Adaptive Response in Chaoborus to Induced
       Morphological Antipredatory Defense in Daphnia
       * E. Lawson

9:45  572  Coevolution of Fig-Parasitic Wasps (Agaonidae), Fig-Pollinating Wasps(Agaonidae) and their Parasitic
       Nematodes (Parasitoidiplogaster)
       * C.A. Machado, E.A. Merre, E. Bermingham

10:00  Break

10:30  573  Molecular Phylogenies and Cospeciation
       * R.D.M. Page

10:45  574  Coevolution of Seabirds and Lice: Reconciling the Dichotomy between Parsimony and Component Analysis
       * R. Gray, A. Paterson

11:00  575  Phylogenetic Evidence that Aphids rather than Plants Determine Gall Morphology
       * D. Stern

11:15  576  Phylogenetics at Three Trophic Levels on Australian Acacia: the Evolution and Coevolution of Plants, Insects,
       Galls and Kleptoparasites
       * B. Crespi, D. Carnean, P. Abbot, M. Worobey

11:30  577  Phylogenetic Relationships of Vectors of New World Alphaviruses: Prelude to Studying Mosquito-Virus Evolution
       * V.L. Mallampalli, T.W. Scott

11:45  578  Clade-Defining Characters and the Evolution of Host Plant Associations in the Rhagoletis Fruit Flies
       (Diptera: Tephritidae)
       * J.J. Smith, G.L. Bush

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8:30 - 12:00

Session 46 Molecular Evolution: General Issues
Contributed Papers
Chair: Xuhua Xia

8:30  579  Functional Causes of Variation in Evolutionary Rate
       * M.K. Uyenoyama

8:45  580  Nucleotide Composition: the Physiological Molecular Clock
       * A. Martin

9:00  581  Protein Clock and Phylogenetic Analysis
       * X. Xia, M. Hafner,

9:15  582  A Comparison of Rates of Molecular Evolution in Birds and Crocodiles
       * S. Stanley

9:30  583  Homogeneity of the Substitution Process in Repeat Domains of Spectrin
       * A. Clark, S. Muse, G Thomas

9:45  584  Transversion to Transition Ratio is Highly Correlated with Neighboring Base Composition in Chloroplast DNA
       * B.R. Morton
Tuesday, 11th July 1995: Morning

0:00    Break
0:30    585 Combining Evolution and Protein Secondary Structure
        * J.L. Thorne, N. Goldman, D. Jones
10:45   586 An Examination of the Ratio of Replacement to Silent Substitutions
        * R. Nielsen
11:00   587 * Mechanistically Linked Mutations and Homoplasly in mtDNA
        * R. Broughton, T. Dowling
11:15   588 The Origin of Doubly Uniparental Inheritance of Mitochondrial DNA in Bivalves
        * R. Hoeh, D. Stewart, E. Zouros
11:30   589 The Evolution of the Heat Shock Response in Early Plants
        * E.R. Waters, E. Viesling
11:45   590 Unusual Phylogeny of the Phosphoglucone Isomerase Gene Supports Trans-Kingdom Lateral Gene Transfer
        * L.A. Katz

Macdonald Engineering Building 497

8:30 - 12:00

Session 47  Gene Flow and Genetic Diversity
Contributed Papers
Chair: Robert Vrijenhoek

8:30    591 Estimating Gene Flow in Island Populations
        * B. Ramalau, J. A. Hartigan
8:45    592 How do Small Freshwater Fish Get Around? Testing One- and Two-Dimensional Models of Gene Flow in the Least Killifish
        * C. Baer
9:00    593 Population Structure and Dynamics of Selected Genes in the Mosquito Culex pipiens
        * E. Chevillon, N. Pasteur, M. Raymond
9:15    594 Sociogenetic Organization and Gene Flow in Myrmica Ants
        * P. Seppa, P. Pamilo
9:30    595 Allozyme and Mitochondrial DNA Evidence of Population Subdivision in the Purple Sea Urchin, Strongylocentrotus purpuratus
        * S. Edmands, R. Burton
9:45    596 Gene Flow and Dispersal in Hydrothermal Vent Organisms
        * R.C. Vrijenhoek
10:00   Break
10:30   597 Population Structure and Genetic Diversity of Two Sea Cucumber Species as a Function of Developmental Strategy Based on mtDNA
        * A. Arndt, M.J. Smith
10:45   598 Genetic Structure in Newly Founded Populations of Lupinus lepidus at Mount St. Helen’s
        * J.G. Bishop
11:00   599 Genetic Structure of Populus tremuloides Michx. as Revealed by RAPDs
        * F.C. Yeh, D.K. Chong, R. Yang
11:15   600 Allozyme Studies in the Endemic Vascular Flora of the Queen Charlotte Islands
        * L. Goertzen, F.R. Ganders
11:30   601 Isozyme and Morphological Variation in Pinus contorta ssp. latifolia
        * R. Yang, F.C. Yeh, A.D. Yanchuk
11:45   602 Symbiosis- Induced Shifts in Rates of Nucleotide Substitution: An Example with Omphalinoid Mushrooms
        * F. Lutzoni, R. Vilgalys

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Tuesday, 11th July 1995: Morning

Macdonald Engineering Building 280

Session 48 Sexual Selection: Choice and Combat
Contributed Papers
Chair: Daphne Fairbairn

3:30  603  The Evolution of Mating Preferences for Fitness
       * M. Kirkpatrick

3:45  604  Female Preferences for Ancestral Mating Calls
       * M.J. Ryan, A.S. Rand

9:00  605  Mate Choice Copying Can Evolve without a Cost to Choice: A Population Genetic Model
       * M.ervedio, M. Kirkpatrick

9:15  606  Female Mallard Preferences for Natural and Experimental Variation in Male Ornaments
       * K. Omland

9:30  607  Evolution of Sexual Dimorphism in the Mallard Complex of Waterfowl
       * J. Rhymer, D. Heckel

9:45  608  Manipulating Ornament Symmetry: Male Response to Female Choice?
       * I. Justus, M. Gross

10:00 Break

10:30 609  The Preference Window of the Female Brown Planthopper
       * A. Trickett

10:45 610  Influences of Blood Parasites, Ecological Variables and Phylogeny on the Evolution of Bright Plumage Coloration in Selected African Birds
       * A.P. Smyth, T.B. Smith, H.I. Jones

11:00 611  Sexual Selection on Body Size and Components of Body Size in Male Waterstriders
       * R. Preziosi, D. Fairbairn

11:15 612  Sexual Selection and the Evolution of Sexual Dimorphism in a Water Strider: The Interaction of Selection and Constraint
       * D. Fairbairn, R. Preziosi

11:30 613  Vocal Evolution and Sexual Selection in Fur Seals and Sea Lions (Pinnipedia: Otariidae)
       * E.H. Miller

Macdonald Engineering Building 279

Session 49 Life Histories: Optimization, Correlation and Constraint
Contributed Papers
Chair: James Carey

8:30  614  Is the Effect of Selection Concentrated on Life History Stages with High Mortality?
       * M.C. Vavrek, C.C. Bennington

8:45  615  Predicting Optimal Life History Strategies along a Gradient of Parental Quality
       * W.M. Hochachka

9:00  616  Virginity Increases Mortality at Older Ages in Large Medfly Cohorts
       * J.R. Carey, P. Liedo, J.W. Vaupel

9:15  617  Resource Availability and Allocation Options in a Perennial Herb Pinguicula vulgaris
       * A.C. Worley, L.D. Harde

9:30  618  Age-Specific Patterns of Genetic Variance in Drosophila melanogaster: I. Mortality

9:45  619  Age-Specific Patterns of Genetic Variation in Drosophila melanogaster: II. Fecundity and its Genetic Correlation with Mortality

10:00 Break
Tuesday, 11th July 1995: Morning

10:30  620  Sex and Death in the Nematode Caenorhabditis elegans
       * W. Van Voorhies

10:45  621  Genetic Trade-Offs in Golf-Course Populations of Annual Bluegrass (Poa annua) in Relation to Life History/Resource Allocation Theory
       * S. Ward

11:00  622  Responses to Selection on Leaf Length in Plantago lanceolata: How Tight is a Suite of Co-Adapted Characters
       * A. Van Hinsberg

11:15  623  Experimental Evidence of Developmental Independence across Life Stages: Multiple Mechanisms that Compensate for Tail Predation in the Salamander Hemidactylium scutatum
       * J.L. Vaglia, R.U. Harris, S.K. Babcock

11:30  624  Optimistic Growth: Rapid Growth of Pumpkinseed Sunfish in Response to a Bluegill Competitor
       * J. Arendt, D.S. Wilson

8:30 - 12:00

Session 50  Parasitic Genetic Elements
Contribution: Clifford Zeyl

8:30  625  P Element Evolution at the Molecular Level
       * J.C. Silva, J.B. Clark, M.G. Kidwell

8:45  626  Evolution and Transposable Elements: Somatic Mutation Rates in Caenorhabditis elegans
       * J.D. Ginster, J.J. Collins, T.D. Kocher

9:00  627  Repeated Sequences in the mtDNA Control Region of Shrews (Insectivora Mammalia)
       * L. Fumagalli, P. Taberlet, J. Hausser

9:15  628  Analysis of an Ancient Retrotransposon Insert in Six Species of Peromyscus
       * M.A. Cantrell, N. Dluglo, B. Filanowski, Z. Lister, H.A. Warchman

9:30  629  What is the Main Force Containing Transposable Element Copy Number?
       * S. Nauidin, T. Mackay, E. Pasyukova

9:45  630  The Invasion of Sexual Yeast Populations by Retrotransposon Ty3
       * C. Zeyl, G. Bell

10:00

10:30  631  Molecular Structure and Origin of B-Chromosomes in the Frog Leioptela hochstetteri
       * T. Sharbel, A. Houseen, D. Green

10:45  632  Evolution of a B Chromosome (PSR) in the Parasitic Wasp Nasonia vitripennis
       * B.F. McAllister

11:00  633  Sex Ratio Distortion due to Bacterially-Mediated Male-Killing in the Seed Bug Spilostethus hospes
       * F. Groteers

11:15  634  Variation in Recombination Rates, Levels of DNA Sequence Polymorphism, and Divergence at X-Linked Loci in House Mice: Evidence for Genetic Hitchhiking?
       * M.W. Nachman, C. Aquadro

11:30  635  Recombination and Positive Selection Generate Extensive Polymorphism in the Gamete Recognition Protein, Bindin
       * E.C. Metz, S.R. Palumbi
Tuesday, 11th July 1995: Morning

Macdonald Engineering Building 476

Session 51  Molecular Evolution: Selection

Contributed Papers
Chair: John Brookfield

9:30  636  An Attempt to Detect Selection in Enhancer Sequences of *Drosophila melanogaster*
*  J.F.Y. Brookfield, D.L. Jenkins

*  W.J. Swanson, V.D. Vacquier

9:40  638  Concerted Evolution and Positive Darwinian Selection of the a1-Proteinase Inhibitor Gene Family in Mice
*  R.L. Goodwin, H. Baumann, F.G. Berger

9:45  639  Natural Selection on Peptide-Blinding Specificities at Class I MHC Loci
*  A.L. Hughes

9:50  640  Molecular Systematics of Immune Cells Implicated in Human Rheumatoid Arthritis: A Coevolutionary View
*  M. Richards, L. Nelson

9:55  641  Searching for the Consequences of Immune Selection on the Structural Proteins of Viruses
*  D. Haydon

10:00  Break

10:20  642  Causes and Consequences of Concerted Evolution
*  S. Wang, A. Loverre-Chyurlia, E. Yoshida, D. Hickey

10:45  643  Non-Neutral Evolution of Codon Usage and Excess Amino Acid Variation in *Drosophila* mitochondrial DNA
*  D.M. Rand, L.M. Kann

11:00  644  The Effect of Clusters of New Mutations on Molecular Evolutionary Rate: Inflated Variance Relative to Mean
*  H. Hsuai, R.C. Woodruff

11:15  645  A Single Amino Acid Substitution Converts a Carboxylesterase to a Phosphatase to Confer Organophosphate Insecticide Resistance in the Sheep Blowfly *Lucilia cuprina*
*  R.D. Newcomb, P.M. Campbell, R.J. Russell, J.G. Oakeshott

11:30  646  Nucleotide Polymorphism in the 5' Promoter Region of Esterase 6 in *D. melanogaster* and its Relationship to Enzyme Activity Variation
*  W. Ogders, J. Oakeshott, M. Healy

11:45  647  Molecular Evolution of Colicins in *E. coli*
*  M.A. Riley
Tuesday, 11th July 1995: Afternoon

Leacock 26

Session 52  Incorporating Molecular Evolution into Molecular Systematics
Symposium
Chair: Chris Simon

2:00  Conserved Motifs, Secondary Structure, Alignment, and Phylogenetic Utility of 12S Ribosomal RNA
2:15  Aligning rRNA Structures - Effects on Phylogenetic Conclusions and Potential for Weighting
* K. Kjer
2:30  Accommodating Among-Site Rate Variation in Phylogenetic Analysis
* J. Sullivan, G.G.P. Naylor, K. Holsinger, C. Simon
2:45  Compositional Patterns, Nucleotide Substitutions, and the Evolution of Animal Mitochondrial DNA
* N.T. Perma, T.D. Kocher
3:00  Nucleotide Compositional Bias and Related Molecular Constraints: Effects on Phylogenetic Inference
* T.M. Collins, G.J.P. Naylor, P.H. Wimberger
3:15  Spectral Analysis of DNA Sequences: Walks Within Tree Space
* G.M. Lento, R.E. Hickson, M.A. Steel, P.J. Lockhart, M.D. Hendy, D. Penny
3:30  Break
4:00  Molecular Evolution of rhCL
* E.A. Kellogg, N.D. Juliano

Redpath Museum Auditorium

Session 53  Biogeography
Contributed Papers
Chair: Chris Eckert

2:00  Dispersal-Vicariance Analysis: A Nonhierarchical Approach to the Quantification of Historical Biogeography
* F. Ronquist
2:15  Genetic Drift and Founder Effect in an Invading Plant
* C.G. Eckert, D. Maniacci, , S.C.H. Barrett
2:30  * Phylogeography of Two Recently Diverged Species of Marine Prosobranch Snails
* F. Marko
2:45  Phylogeography and Ecological Genetics of a Circumpolar Apomict, Daphnia pulex
* L.J. Weider, A. Hoback, T.J. Crease, P.D.N. Hebert
3:00  Biogeography, Genetic Population Structure and Evolution of Membranipora (Bryozoa: Cheilostomata)
* H. Schwaninger
3:15  Population Structure and Biogeography of the Acorn Barnacle Semibalanus balanoides
* A.F. Brown, D.M. Rand
3:30  Break
4:00  Molecular Phylogenies of Evolutionary Innovations: Deep Origins of Fish- and Mollusc-Eating Cone Snails
* T.F. Duda Jr.
4:15  Molecular Systematics and Biogeography of the Central Asian Burrowing Vole (Mammalia:Rodentia:Arvicolinae)
* C.W. Kilpatrick
4:30  Phylogeography of Bats of the Atlantic Rainforest of Brazil
* A.D. Ditchfield
4:45  Intraspecific Answers to an Interspecific Question: Genetic Drift and Fluctuating Distributions Promote Frog Speciation in South-western Australia
* D. Driscoll
5:00  The Biogeography and Phylogeny of Rhacophorid Frogs in Taiwan
* K.Y. Liu, C.Y. Chen
5:15  Molecular Phylogenetics of a Complex of Cryptic Salamander Species (Batrachoseps)
* E.L. Jockusch
Tuesday, 11th July 1995: Afternoon

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Session 54 Molecular Systematics: Viruses, Bacteria and Invertebrates
Contributed Papers
Chair: David Mindell

2:00  667  The Sequences, Sources, Taxa Database (SST): Linking Public Databases for Rapid Recovery of Biological Information
   C.J. Bult, * J.A. Blake, A.R. Kerlavage, C. Fields

2:15  668  Phylogenetic Reconstruction with AP-PCR (Nuclear DNA) Data
   * R. Borowsky, L. Espinasa

2:30  669  Testing Temporal Patterns of Cladogenesis Using a Null Model of Random Diversification
   * K. Wollenberg, J. Avise, J. Arnold

2:45  670  Saturation and Signal in Cytochrome b
   * C.S. Griffiths

3:00  671  Molecular Phylogeny of Disease-Causing Treponema and the Origins of Syphilis
   H. Holzmann, * C. Anderson, A. Dietz, B. Schierwater

3:15  672  The AIDS Pandemic is New, but is HIV New?
   * D.P. Mindell

3:30  Break

4:00  673  Combined Analysis of Metazoan 18S rRNA and Morphology
   * D. Ermisse

4:15  674  Molecular Systematics of the Eucestoda (Platyhelminthes) Using Sequence Data
   * J. Mariaux, P. Morel Andre

4:30  675  Evolution of Two Hidden Architectural Strategies in Scleractinian Corals Inferred from Mitochondrial 16S DN
   * S. Romano, S.R. Palumbi

4:45  676  Testing the Monophyly of the Annelida Using Nuclear (EF1a) and Mitochondrial (12S rRNA) Sequences
   * D. McHugh

5:00  677  Evolutionary Relationships of Vestimentiferan Tube Worms Inferred From mt DNA COI Sequence
   * M.B. Black, W.R. Hoch, R. Lutz, R. Vrijenhoek

5:15  678  Genetic Evidence for Ancient Radiations in the Australian Onychophora
   * D. Gleeson, D. Rowell, D. Briscoe, N. Tait

Macdonald Engineering Building 497

Session 55 Demography
Contributed Papers
Chair: Frank Cipriano

2:00  679  Modelling the Effects of Genetic Variation of Life History Parameters on Population Dynamics
   * P. Duncan

2:15  680  The Consequences of Spatial Structure for Population Dynamics: Lessons from Coupled Map Models
   * B.E. Kendall, G.A. Fox

2:30  681  Higher-Order Interactions Among Spatially-Mapped Individuals: An Iterative Approach
   * K.A. Garrett, P.M. Dixon

2:45  682  From Extinction to Persistence or Chaos: The Effects of Cooperation on Population Dynamics
   * L. Aviles

3:00  683  A Graph Theory Approach to Demographic Loop Analysis: Partitioning Elasticity Matrices into Life History
   Pathways
   * G. Wardle

   * R.L. Tremblay

3:30  Break
Tuesday, 11th July 1995: Afternoon

2:00  685  Effects of Genetic Differentiation on Population Dynamics in the Least Killifish, *Heterandria formosa*
* J. Leips

2:15  686  Genetic Evidence for Reproductive Isolation and Multiple Origins of Sympatric Trophic Ecotypes of Whitefish (*Coregonus*)
* L. Bernatchez, J.A. Vuorinen, R.A. Bodaly, J.J. Dodson

2:30  687  Does Differential Survivorship in Coral Reef Fish Alter Patterns of Distribution Established during Recruitment?
* J. Guillerrez

2:45  688  Life History Variation among Female *Gambusia hubbsi* on Andros, Bahamas
* J. Downhower, L. Brown, M. Schug, P. Fuerst

3:00  689  Morphological Stasis and Ecological Divergence in the Evolution of Dolphins
* F. Cipriano, S.R. Palumbi

3:15  690  Ovarian Diapause and Post-Diapause Reproduction in *Drosophila melanogaster* Females
* K.D. Williams, M.B. Sokolowski

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2:00 - 5:30  Session 56  Inbreeding Depression in Plants
Contributed Papers
Chair: Mark Johnston

2:00  691  Mutation Rates and the Coevolution of Self-Fertilization and Inbreeding Depression
* M.O. Johnston, D.J. Schoen

2:15  692  Comparison of QTL Maps of Two Independently-Derived Inbreeding *Mimulus* Species
* J. Lin, K. Ritland

2:30  693  The Effects of Five Generations of Enforced Selfing on Pollen and Ovule Production in *Mimulus guttatus* (Scrophulariaceae)
* D.E. Carr, M.R. Dudash

2:45  694  Genetic Basis of Inbreeding Depression in *Mimulus guttatus*: A Quantitative Genetics Approach
* M. R. Dudash, D. E. Carr

3:00  695  Role of Inbreeding Depression in Maintaining the Variability of Anther-Stigma Distance in Common Morning Glories
* S. Chang, M. Rausher

3:15  696  The Effects of Inbreeding in Diploid and Tetraploid Populations of *Epilobium angustifolium*: Implications for the Genetic Basis of Inbreeding Depression
* B.C. Husband, D.W. Schemske

3:30  Break

4:00  697  Evolution of Mating Systems and Floral Characters in Three Sympatric Species of *Linanthus*
* C. Goodwillie

4:15  698  Individual Variation in Inbreeding Depression: The Roles of Inbreeding History and Mutation
* J.H. Willis, S.T. Schultz

4:30  699  Evolution of Unisexuality in the Hawaiian Islands: A Test of Microevolutionary Theory
* S.T. Schultz, F.R. Ganders

4:45  700  Pollinator Movements and Patterns of Gene Dispersal in Monkeyflower
* J.D. Karron

5:00  701  Actual Variance of Inbreeding: Estimation and Relevance to Apparent Allozyme Overdominance and to Inferences about Inbreeding Depression
* K. Ritland

5:15  702  Metabolic Control Theory, GXE and Inbreeding Depression: A Common Mechanism for Partial- and Overdominance
* S. Tonsor, P. Batra
Session 57  DNA Sequence Variation
Contributed Papers
Chair: Jeff Mitton

2:00  703  Population Genetics and Linkage Mapping with RAPD-SSCP
* M. Antolin, W.C. Black IV

2:15  704  DNA Variation at CYP4D1, a Drosophila Cytochrome P450: Evidence of a Correlated History with 6-Pgd
  * K.S. Phillips, D.J. Begun, C.F. Aquadro

2:30  705  DNA Fingerprinting and Hardy Weinberg Equilibrium: A Continuous Approach to Analysis of VNTR Fragments
  * L.M. McIntyre, B.S. Weir

2:45  706  Independent versus Concerted Evolution of a Pupfish HindIII Satellite DNA Sequence
  * D.D. Duveenell, B.J. Turner

3:00  707  Cytochrome b DNA Sequence Variability in the Hawaiian Honeycreepers
  * R.A. Feldman, L. Freed, R. Cann

3:15  708  Mitochondrial 16S rRNA Sequence Divergence among Deep-Sea Amphipod Populations: Geographic and
  Bathymetric Patterns of Population Structure
  * S.C. France, T.D. Kocher

3:30  Break

4:00  709  Phylogenetic Analysis of Inter-and Intraspecific Variation of the Mitochondrial 16S rRNA Gene of the Planktonic
  Marine Copepod Acartia (Crustacea: Copepoda) Evidence of Cryptic Species and Geographic Structure of A. taeniata
  * C. Caudill, A. Bucklin

4:15  710  Population Differentiation: mtDNA Sequences Reveal Multiple Population Genetic Structures and Evolutionary
  Forces within One Species
  * F. Villablanca

4:30  711  Allozyme and mtDNA Variation Associated with Production in Domesticated Pigs
  * J.B. Mitton, J.J. Chewning, D.J. Zelenka

4:45  712  mtDNA Sequence Divergences in Walleyes From River Spawning Sites: Support for Natal Homing
  * C.A. Stepień, J.E. Faber

5:00  713  * A Phylogeographic Analysis of Intraspecific Variation Using mtDNA Markers in Two Asian Primate Genera
  * L.L. Rosenblum, D.J. Melnick

5:15  714  Demographic History of India and Mitochondrial DNA Sequence Diversity
  * J.L. Mountain, L. Cavalli-Sforza

Macdonald Engineering Building 476

Session 58  Species Interactions
Contributed Papers
Chair: Jennifer Mattei

2:00  715  Frequency-Dependence and Coexistence in a Spatial Context
  * J. Molofsky, R. Durrett, S.A. Levin

2:15  716  Geographic Structure of Lineage Associations in a Plant-Bacterial Mutualism
  * M.A. Parker

2:30  717  Competition between Bacterial Strains Mediated by Associated Bacteriophage: Phage-Bacteria Interaction at the
  Predation-Mutualism Boundary
  * T. Palys, G.P. Krkonos, F.M. Cohan

2:45  718  Competition between Plant Genotypes Mediated by Specialist vs. Generalist Mutualists
  * H. Wilkinson, M. Parker

3:00  719  Effects of Genotype and Nutrient Environment on Tolerance and Reallocation Patterns in Response to Stimulated
  Herbivory in Seedlings of Aselepias syriaca
  * C.G. Hochwender
Tuesday, 11th July 1995: Afternoon

3:15    720  Plant-Herbivore Defense Theory: Tradeoffs Found When Plants Were Subjected to Moderate Stress  
         * J.H. Mattei
3:30    721  Break
4:00    721  Cyanogenesis in *Turnera ulmifolia*: Mediating Interactions at Multiple Levels  
         * P. Schappert, J.S. Shore
4:15    722  Intra- and Interpopulation Genetic Architecture and the Evolution of Host Use in a Polyphagous Butterfly  
         * J.L. Bossart, J.M. Scriber
4:30    723  Genetic Variation in Natural Population of *Drosophila ananassae* Reared from Different Host Plants  
         C. Young, * K. Lofdahl
4:45    724  Dynamics of Two Symbiotic Algae that Inhabit the Same Cnidarian Host  
         * D. Secord
5:00    725  The Effect on Ant Association on the Population Genetics of the Australian Lycorened Butterfly *Jamenus evagorus*  
         * J.I. Costa, N.E. Pierce
5:15    726  Do Barnacle Epibions Prefer Hybrid Stone Crabs?  
         * T.M. Bert

Macdonald Engineering Building 279

2:00 - 5:30

**Session 59  Life Histories: Development, Dispersal and Density**

Contributed Papers
Chair: Steve Stearns

2:00    727  The Differential Canalization of Fitness Components  
         * S. Stearns, M. Kaiser, T. Kaweckel
2:15    728  Optimal Investment of Resources for Resisting Rare Stresses  
         * D. Cohen
2:30    729  Rapid Evolution or Plasticity? Life-History Variation among Four Populations of the Western Mosquitofish, *Gambusia affinis*  
         * S.C. Weeks, C.A. Stockwell, G.K. Meffe
2:45    730  Density Regulation in Natural Populations of Guppies (*Poecilia reticulata*)  
         * D. Reznick, M. Bryant
3:00    731  Feeding Rate and Weight Gain During the Larval Phase in Populations of *Drosophila melanogaster* Subjected to Density-dependent Natural Selection  
         D.J. Borash, N. Boulnutay, A. Joshi, * L.D. Mueller
3:15    732  Physiological Responses to Density-dependent Natural Selection  
         * D. Borash
3:30    Break
4:00    733  Effect of Maternal and Embryonic Environments on Diapause Incidence in the Ground Cricket, *Allonemobius socius*  
         * A.E. Olvido, S. Busby, T.A. Mousseau
         * C.W. Fox, M.S. Thakar, J.D. Martin, T.A. Mousseau
4:30    735  Ovipositors, Eggs, Hatchlings and Diapause: Adaptive Maternal Effects in a Cricket  
         * T.A. Mousseau
4:45    736  Nature and Nurture in Hydroids: Effects of Environment and Genotype on Colony Morphology  
         * D.R. Brumbaugh
5:00    737  Flight Polymorphism in the Soapberry Bug; Environmental and Development Control  
         * R. Winchell, H. Dingle
5:15    738  An Evolutionary Decoupling of Developmental Mechanisms: Salamander Pigment Patterns and the Lateral-Line Sensory System  
         * D.M. Farichy

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Tuesday, 11th July 1995: Afternoon / Evening

Macdonald Engineering Building 280

Session 60  Genetic Population Structure II
Contributed Papers
Chair: George Barrowclough

1:00  Estimation of Long-Distance Gene Flow within a Continuous Population of *Rudbeckia hirta*
*J.S. Heywood*

1:15  The Use of RAPDs to Determine Genetic Diversity in *Poikilocanthus macratus*, a Tropical Wet Forest Shrub in *Ammophila breviligulata*, a Temperate Dunegrass
*S.P. Bush, D.L. Malcady*

1:30  Allozymes, RAPDs and Quantitative Traits Yield Conflicting Estimates of Population Differentiation, Suggesting Local Adaptation in Pines of the Rocky Mountains
*R. Latta, J. Mitton*

1:45  Genetic Differentiation in the Pitcher-Plant Mosquito *Wyeomyia smithii*
*P. Armbruster, W.E. Bradshaw, C.M. Holzapfel*

2:00  The Genetic Structure of *Daphnia* Populations along an Ecological Gradient
*C.K. Geedey, A.J. Tessier*

2:15  Ecological Genetics of Hybrid *Daphnia*: a Temporal Study on Genetic Variation and Sexual Isolation
*P. Spaak*

2:30  Break

2:45  Genetic Variation in the Zebra Mussel (*Dreissena polymorpha*) within the St. Joseph River Drainage
*K.M. Lewis, J.L. Feder, G. Lamberti*

3:15  Patterns of Control Region Variation in Mitochondrial DNA of Spotted Owls (Aves: Strigidae)
*G.F. Barrowclough, J.G. Groth, R.J. Gutierrez*

3:45  A Genetic Analysis of Putative Host Races in the Common Cuckoo
*H.L. Gibbs, M. Brooke, N. Davies*

4:15  Mitochondrial DNA Variation within and between Populations of Red Howler Monkeys (*Alouatta seniculus*)
*T. Pope, W. Potts*

4:45  Mitochondrial DNA Sequence Relationships of the Extinct Blue Antelope *Hipotragus leucophaeus*
*T. J. Robinson, A. D. Bastos, K. Halanych, B. Herzig*

5:15  Preserving Allelic Diversity: Are Translocations Successful?
*C.A. Stockwell, M. Mulvey*

6:00 - 8:30  Bishop Mountain Hall

Banquet

Leacock 132

9:00 - 10:00 pm  Session 61  SSE Presidential Address

Plenary

Light, Vision, Colour Patterns, and Behaviour: Suites of Interactive Traits and the Direction of Evolution

John Endler
Wednesday, 12th July 1995: Morning

Leacock 26

8:00 - 12:00

Session 62  Mapping Quantitative Trait Loci
Symposium  
Chair: Zhao-Bang Zeng

8:00  751  High Resolution Mapping of QTLs Affecting Bristle Number in *Drosophila melanogaster*  
* T. Mackay
8:30  752  Genetic Analysis of the Morphological Evolution of Maize  
* J. Doebley
9:00  753  Molecular Quantitative Genetics of Fitness Components  
* T. Mitchell-Olds
9:30  754  Quantitative Trait Loci for Mouse Growth  
* J. Cheverud, E. Routman
10:00  Break
10:30  755  Statistical Issues in Mapping Quantitative Trait Loci  
* Z-B Zeng
11:00  756  Influence of Inbreeding and Outcrossing on QTL Identification  
* W. Beavis
11:30  757  Population-Based Methods for Mapping Disease Genes in Human Populations  
* N. Kaplan

Leacock 219

8:00 - 12:00

Session 63  Rapid Evolutionary Changes in Wild Populations
Symposium  
Chair: Elizabeth Grace Boulding

8:00  758  Predicting Evolution in Darwin’s Finches  
* P.R. Grant, B.R. Grant
8:30  759  Old Genes in New Bodies: Do Shrinking Snow Geese Reflect Evolutionary Change?  
E.G. Cooch, * D.B. Lank, F. Cooke
9:00  760  Rapid Evolutionary Change in Wild Populations Caused by the Invasion of Predators  
* E.G. Boulding
9:30  761  Genetic Change in Introduced Organisms  
* J.H. Myers
10:00  Break
10:30  762  Manifest Destiny: Genetics of Adaptation during the First Few Hundred Generations of Soapberry Bug Pioneers  
* S. Carroll, H. Dingle
11:00  763  Environmental Shifts, Rapid Adaptation, and High Extinction Rates in a Set of Checkerspot Butterfly Populations  
* C. Parmesan, M. Singer
11:30  764  Ecology of Rapid Speciation and Divergence in the Three-spine Sticklebacks  
* D. Schluter
Wednesday, 12th July 1995: Morning

8:30 - 12:00

Session 64  Molecular Systematics: Fungi, Algae and Plants
Contributed Papers
Chair: Lynn Gillespie

8:30  Molecular Phylogenetics of Fungi Cultivated by Neotropical Attine Ants
* S. Rehner,

8:45  Molecular Systematics of Ascomycete Fungi - where do Asexual Species Fit?
* M.L. Berbee

9:00  The Molecular Phylogenetics of Algae Symbiotic with Reef Building Corals
* T. Wilcox

9:15  Molecular Evidence on the Relationships of Chlorophycean Green Algae and Higher Plants
* R.M. McCourt, K.G. Karol, C.F. Delwiche

9:30  Phylogenetic Relationships in Gnetales Based on nrDNA Sequence Data
* L. Gillespie, J. Sweese

9:45  Angiosperm Phylogeny Inferred from 18S rDNA Sequences

10:00  Break

10:30  Levels of Taxonomic Consensus and Character Congruence Among Four Molecular Data Sets in the Triticaceae (Poaceae)
* R.J. Mason-Gamer, E.A. Kellogg

10:45  Measures of Phylogenetic Congruence in Pontederiaceae
* S.W. Graham, S.C.H. Barrett

11:00  Evolution of Marine Angiosperms
* D.H. Les, M. Waycott, M. Cleland

11:15  The Use of RAPDs in Phylogenetic Analyses of Pea and its Close Relatives
* N.O. Polans, B.K. Hoey, D.M. Barnes, J.A. Nelson

11:30  A Comparison of Molecular and Morphological Approaches to the Phylogeny of Korthalsella (Viscaceae)
* M. Molvray, P.J. Kores

11:45  Systematics of the Vochysiaeae: Origin of an Asymmetrical Flower
* A. Lit

Redpath Museum Auditorium

8:30 - 12:00

Session 65  Genetic Variability and Metapopulations
Contributed Papers
Chair: Kent Holsinger

8:30  Population Dynamics and the Maintenance of Diversity in Fluctuating Environments
* D. Babai, S. Elner

8:45  The Maintenance of Genetic Variation in Subdivided Populations
* M. Whitlock

9:00  The Genetic Structure of Source-Sink Metapopulations
* O. Gaggiotti

9:15  Inferring Migration Structures From Nucleotide Sequence Data: A Comparison of FST Measures
* K. Holsinger

9:30  Genetic Diversity in Endemic Plant Species of the Athabasca Sand Dunes
* B.G. Purdy, R.J. Bayer

9:45  Patterns of Genetic Variation in Two Southern Australian Seagrasses
* M. Waycott, D. Walker, S. James

10:00  Break
Wednesday, 12th July 1995: Morning

10:30 783 Genetic Consequences of Extinction and Colonization in a Marine Plant Population
* M. Ruckelshaus

10:45 784 Patterns of Genetic Variation at Microsatellite Loci in Peripheral Population of the Eastern Collared Lizard (Crotaphytus collaris collaris)
* D.W. Hutchison

11:00 785 Use of Microsatellite Repeats to Examine Metapopulation Structure in the Mexican Spotted Owl (Strix occidentalis lucida)
* B.S. Johnson, P.B. Stacey

11:15 786 Effect of Dispersal Behaviour on the Maintenance of Genetic Variability in White-Tailed Deer
* J.R. Purdie, M. H. Smith

11:30 787 Genetic Structure of the North Atlantic Fin Whales, Balaenoptera physalus
* M. Berube, F. Larsen, P. Palsboll, R. Sears

11:45 788 Genetic Variation in Desert-Adapted Drosophila Species
* C. Breitmeyer

Macdonald Engineering Building 280

8:30 - 12:00

Session 66  Evolution and Development
Contributed Papers
Chair: Arne Mooers

8:30 789 Testing Phylogenetic Models of Body Size Evolution
* A. Mooers, D. Schlueter

8:45 790 The Cellular Basis of Body Size Evolution in Worms
* A. Leroy, S. Emmans

9:00 791 Pattern and Development in a Developmental Character - Chromatin Diminution - as Revealed by Phylogenetic Analysis
* G.A. Wyngaard, H. Dorward

9:15 792 Chromosomes, Development and Climate: Latitudinal Clines in the Australian Grasshopper Chalcoida captica
F. Groeters, * D. Shaw

9:30 793 Evolutionary Origin of Bilaterally Asymmetrical Structures: Relation between Behavioral Asymmetry (Handedness) and Morphological Asymmetry in the Claws of a Brachyuran Crab
* A.R. Palmer, M. Harrison, L. Pournak

9:45 794 Evolution of Body Asymmetry in Hermit Crabs
* A. Harvey

10:00 Break

10:30 795 Analysis of Mortality Patterns in Hydra Suggests Lack of Aging
* D.E. Martinez

10:45 796 The Evolution of Regulatory Sequences in the Developmental Gene hairy in Drosophila
* J. Kim, K. Nayar

11:00 797 Putative Adaptations of Harp Gasteropod Shells
* R. Collin

11:15 798 Multivariate Analysis of Longitudinal Growth Data with Common Principal Components
* C.P. Klingenberg

11:30 799 Migration and Fate at the Cranial Neural Crest in Bombina orientalis: a Baseline for Studying the Evolution of Head Development in Anurans
* L. Otters, J. Haken

11:45 800 The Genetics of Leaf Development in Three Taxa of Mimulus (Scrophulariaceae)
* C. Ritland, K. Ritland, F. Strumas
Wednesday, 12th July 1995: Morning

Arts 125

Session 67  Cytonuclear Interaction and Gene Evolution
Contributed Papers
Chair: Bruce Turner

801  Hybridization and Cytonuclear Disequilibrium in Seastars (*Lepasterias*)
* D. Foltz, A. Hrincevich, E. Campagnaro, A. Himel

802  Cytonuclear Disequilibria under Tetrasomic Inheritance
* R.D. Overath, M.A. Asmussen

803  Selection Effects on a Cytonuclear System
* C. Babcock, M. Asmussen

804  Mating Systems, Bottlenecks and Genetic Polymorphism in Hermaphrodites
* P. Jarne

805  Outcrossing in a Male-Rich Natural Population of a Self-Fertilizing Fish Species
* B.J. Turner, B.A. Lubinski, W.P. Davis, D.S. Taylor

806  Genetic Relatedness and Population Viscosity in Multiple-Queen *Formica* Ants
* M. Chapuisat

Break

807  Survival Probabilities for Mutant Alleles in Tetraploids and Two-Locus Allele Combinations in Diploids
* E. Pollak

808  Contrasting Patterns of Replacement and Silent Polymorphism and Differentiation at Esterase-6 in Worldwide Populations of *Drosophila melanogaster*
* V. Bauer, D. Begun, C. Aquadro

809  Contrasting Patterns of Molecular Evolution at the Duplicated Cytoplasmic Actin Genes of *Drosophila*: A Test of the Nearly Neutral Model
* M.T. Hamblin, C.F. Aquadro

810  Unequal Rates of Adaptive and Deleterious Change in the *D. melanogaster-simulans* Lineages
* W. Eanes

811  Molecular Population Genetics of a Pseudogene in *Drosophila melanogaster*
* S.W. Schaeffer, J.K. Pritchard

812  Genetic Exchange and Sequence Divergence Among Ecological Populations of Plasmids
* F. Cohan, * I. Mitrica

Macdonald Engineering Building 497

Session 68  Molecular Population Genetics: Models and Mutations
Contributed Papers
Chair: Ron Woodruff

813  Power of Estimation of Population Parameters from Coalescent Trees of Genes: Do we Want More Sites, Samples, or Loci?
* J. Felsenstein

8:45  The Coalescent in the Presence of Selection
* R.B. Campbell

9:00  Estimating Pollen and Seed Migration From Joint Nuclear-Mitochondrial-Chloroplast Data
* M.E. Orive, M. Asmussen

9:15  Interactions of Genetics and Population Dynamics in an Age-Structured Population Model
* J. Krumm, D. Promislow

9:30  Estimating Long-Term Mating Systems from DNA Sequences
* B. Milligan

9:45  Fitness Consequences of Multiple-Locus Genotype for Successive Life Stages in *Cecropia obtusifolia*, a Neotropical Pioneer Tree Species
* E. Alvarez-Buylla, * C. Lara-Moreno
Wednesday, 12th July 1995: Morning

10:00        Break

10:30        819   Clusters of New Mutations in the Evolutionary Landscape
                * R.C. Woodruff, H. Huai, J.N. Thompson Jr

10:45        820   The Effect of Adaptive Mutagenesis on Genetic Variation at a Linked Neutral Locus
                * C. Colby, S. Williams

11:00        821   Unusual Patterns of Codon Substitution in the Cytochrome-B Gene in Microtus from Near Reactor 4, Chernobyl, Ukraine

Lomakin

11:15        822   Rapid Evolution due to the Persistence of Escaped Transgenes in Wild Populations of Sunflower and Squash
                * A.A. Snow, L.H. Rieseberg

11:30        823   Persistence of Virulent Bacteriophage: Models and Experiments
                * J. Mittler, S. Schrag

11:45        824   Multiple Interspecies Transmissions of Human and Simian T-Cell Leukemia/Lymphoma Virus Type I Sequences
                * K. Crandall

Macdonald Engineering Building 279

8:30 - 12:00

Session 69  Sex Ratios and Sex Allocation

Contributed Papers
Chair: Willem Roosenburg

8:30        825   Queen Numbers, Parentage and Queen Mortality in the Facultatively Polygynous Ant Myrmica tahoensis
                * J. Evans

8:45        826   Annual Sex Ratio Variation in a Turtle with Temperature-Dependent Sex Determination
                * W.M. Roosenburg

9:00        827   Ordinary and Extraordinary Sex Ratios in Avian Blood Parasites
                * D. Shutler, A. Read

9:15        828   Sex Allocation and Life History Response to an Energy Gradient for the Reef Building Coral Montastrea faveolata
                * J.T. Villinski

9:30        829   Population Structure and Sex-Ratio Evolution in the Dioecious Plant Silene alba
                * D.R. Taylor

9:45        830   RAPD Markers and Sex Chromosome Genetic Variation in Dioecious Angiosperms of the Genus Silene
                (Caryophyllaceae)
                * V.S. Di Stilio, R. Kesseli, D.L. Mulcahy

10:00       Break

10:30        831   Breeding Patterns and Functional Gender in Erythrina costaricensis
                * M.D. Loveless, A. Schnabel, J.L. Hamrick

10:45        832   Parentage Analysis in Chamaeleirium luteum (L.); Why do Some Males Contribute More than Others?
                * P.E. Smouse, T.R. Meagher, C.J. Kobak

11:00        833   Sex Lability, Resource Allocation, and Fecundity in Subdioecious Populations of Wurmbea dioica (Colchicaceae)

11:15        834   Gynodioecy Evolved Once and has been Lost Twice in Hawaiian Bidens (Asteraceae)
                * F.R. Ganders

11:30        835   The Maintenance of Female Stamens in a Cryptically Dioecious Perennial Herb
                * K. Karoly
Wednesday, 12th July 1995: Morning

Macdonald Engineering Building 476
Session 70  Molecular Evolution: Small-Scale Variation and Phylogeny
Contributed Papers
Chair: Margaret F. Smith

8:30
836  Phylogenetic Inference from MHC Sequence Data: Knowing the Molecule
* R.E. Hickson, R.L. Cann

8:45
837  Genome Evolution in P. ocellata
* A.S. Peck, R.C. Vrijenhoek

9:00
838  Differential Expression of Androgen-Induced 3α-Hydroxysteroid Dehydrogenase in Mus Species
* M.K. Liu, F.G. Berger

9:15
839  Introgressive Hybridization in Seal Worms of the Genus Phocascaris: a Case for Recombinant Speciation in Parasites?
* R. Cianchi, P. Arduino, G. Nascetti, L. Bullini, P. Orecchia, S. Mattiucci, S. D’Amelio

9:30
840  DNA Sequence Variation at period Locus of Drosophila pseudoobscura Species Group
* R. Wang, J. Hey

9:45
841  Using period Locus DNA Sequences to Study Speciation in the Drosophila viridis Group
* H. Hilton

10:00  Break

10:30
842  Analysis of scn-DNA Polymorphisms in Juvenile Oysters (Crassostrea virginica)
* Y. Hu, D. Foltz

10:45
843  Mitochondrial Control Region Sequence Variation in a Seastar (Leptasterias) Species Complex
* A.W. Hrincevich, D. Foltz

11:00
844  Variation in the Mitochondrial DNA of the Alexander Archipelago Wolf Canis lupus ligoni
* G.F. Shields, M. Rosing, D. Person

11:15
845  Models of Length Variation in Sturgeon Mitochondrial DNA
* J.R.T. Brown, K. Beckenbach, A. Beckenbach, M.J. Smith

11:30
846  Nuclear Copies of a Mitochondrial Gene: A Cautionary Example from Pocket Gophers
* M.F. Smith, U.K. Thomas, J.L. Patton

11:45
847  The Complete Sequence of the Mitochondrial Genome of Rainbow Trout Oncorhynchus mykiss
* R. Zardoya, J.M. Bautista

12:00  End of formal proceedings
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Zera, A., 319
University of Nebraska, U.S.A.

Zeyl, C., 630
McGill University, Canada

Zhang, L., 477
University of Chicago, U.S.A.
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