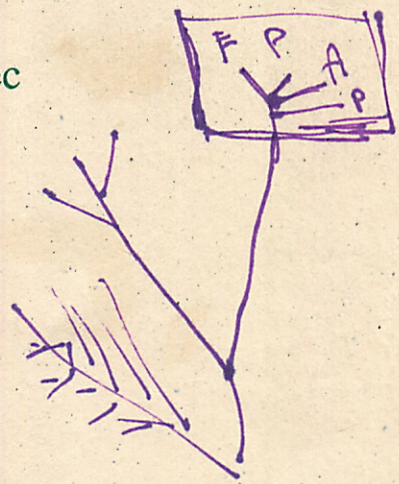
EISEN

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



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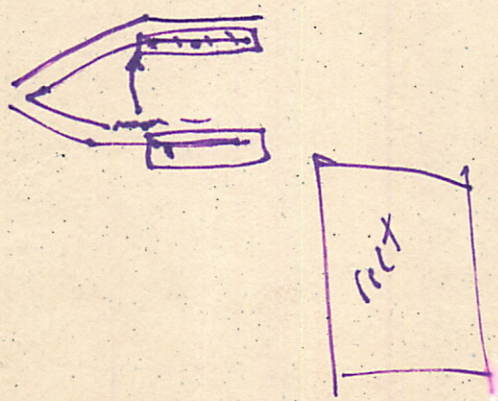


LOCAL EATING SPOTS and TRANSPORTATION

Local Transportation

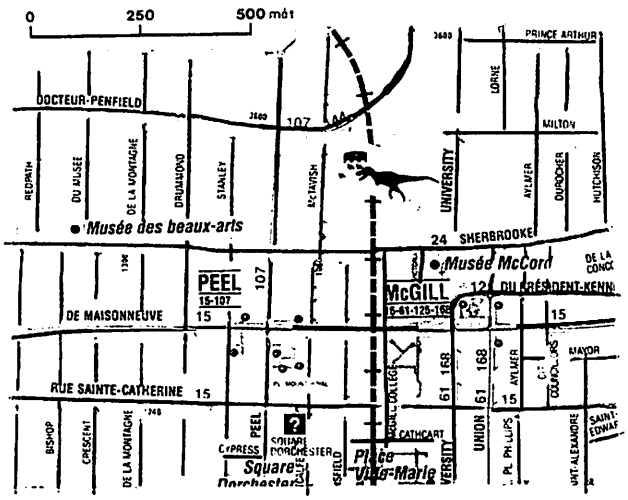
The Metro (Montreal's subway system) can be reached from campus by going either to the Peel Street Station (Peel and de Maisonneuve) or the McGill Street Station (University and de Maisonneuve). Major buses routes run east-west on Pine, Sherbrooke, de Maisonneuve, and St. Catherine, and north-south on and Guy, Peel, University, St. Lawrence, St. Denis. Streets. It is possible to obtain a free bus-metro or metro-bus transfer when entering a metro or bus. If you will be using public transport frequently, it is cheaper to purchase a set of six transport tickets (at any Metro station).

Thomson House and the Student Union

Thomson House (The Graduate Student Centre) on campus, 3650 McTavish Street will be open throughout the meetings. There is a bar (open 4 pm Sat. & Sun., 1:30 pm weekdays), with food (sandwiches, light meals) and a restaurant in the basement. Look for signs directing you there from the area near the auditoriums and lecture rooms. The Student Union, 3480 McTavish Street, has a small cafeteria (200 seats), and will be open for lunch on weekdays.

Breakfast and Lunch Near the McGill Campus

This list includes every restaurant or café between Union and Stanley Streets, from Sherbrooke St. to just south of de Maisonneuve Blvd., and is intended primarily to give delegates a large range of options within a ca. 10 min walk of the conference. Further afield and to the west is the area on Avenue de la Montagne (15 minutes) and the Faubourg Market on Ste. Catherine Street (30 minutes). There are many restaurants to the east, especially near St. Laurent and Prince Arthur streets (30 minutes). A [T] indicates those places where take-out is an option, a "$" means that prices (and presumably quality) are beyond the basic $3-4 sandwich. Table number indicates restaurant size. *Opening hours* are also given, although many of the small cafés alter their schedule according to business and are closed on weekends, at least for breakfast. Also included are a few generic shopping-mall fast food complexes.



A. L. Van Houtte 680 Sherbrooke. [T] 16 tables

2020 University. [T] 12 tables *7:00 wk, 9:00 Sat, closed Sun*

University, south of de Maisonneuve. [T] 12 tables

Mansfield and de Maisonneuve. [T] 12 tables *6:30 wk, closed Sat/Sun*

2027 Metcalfe. [T] 20 tables

1001 de Maisonneuve. [T] 8 tables

McGill, south of de Maisonneuve. [T] 30 tables

2020 Stanley. breakfast every day [T] 40 tables

Café Deli New York 666 Sherbrooke. [T] 12 tables

Focaccia di Carpaccio 2075 University. $ 16 tables *11:30*

Bio-Optimum le petit Vietnam 2090 University. 20 tables *11:00*

Croissant d'Or de Paris 600 President Kennedy. [T] 20 tables *9:00*

Indianas London Life Place, 2001 University. 30 tables *7:00 wk, 9:00 Sat, 11:00 Sun*

Burger King London Life Place, 2001 University (basement). [T] 30 tables

New York, New York Deli London Life Place, 2001 University (basement). [T] 25 tables

Café Supreme London Life Place, 2001 University (basement). [T] 20 tables

2047 Stanley. [T] 6 tables

Eaton's, 9th floor Eaton Centre, de Maisonneuve between University and McGill College. $ 80 tables *11:30*

Le Caveau 2063 Victoria. $$ 35 tables *11:30 wk, 17:00 Sat/Sun*

La Libertine 2095 McGill College. $ 40 tables

L'Ile de France 801 President Kennedy. $ 40 tables *7:00 wk, 17:00 Sat/Sun*

Boubouffe 904 Sherbrooke. [T] 12 tables

Demitasse 896 Sherbrooke. [T] 15 tables

Place Montréal Trust 1500 McGill College. Mall complex [T] 200 tables

Café Moledet 2050 Mansfield. [T] 5 tables *6:30 wk, closed Sat/Sun*

Paragraphe Bookstore & Café 2065 Mansfield. [T] 8 tables *9:30 wk, 10:00 Sat/Sun*

Café Park Expresse 3407 Peel. [T] 8 tables *7:00 Mon-Sat, 8:30 Sun*

Le Cercle 1010 Sherbrooke (Westin Hotel basement). $ 25 tables

Zen 1010 Sherbrooke (Westin Hotel basement). $ 40 tables

Santé Express 1010 Sherbrooke (Westin Hotel basement, Metcalfe entrance). [T] 12 tables

Place Cubique 1010 Sherbrooke (Westin Hotel basement, Metcalfe entrance). 30 tables

Ben's Deli 990 de Maisonneuve. 40 tables *7:00*

Mad Hatter 1463 Metcalfe. Pitchers of beer $7.00 for conference delegates 40 tables *11:00 every day*

La Tulipe Noir 2100 Stanley (Maison Alcan). Take-out desserts 30 tables *7:00 wk, 8:00 Sat, 10:00 Sun;*

Ocean Drive 1155 Sherbrooke. 30 tables

Café Delice Casse-Croute 1125 Sherbrooke. [T] 6 tables *6:00 wk*

Le Taj 2077 Stanley. Indian; excellent $7.95 all-you-can-eat buffet with several vegetarian items 35 tables *11:30-2:20 weekdays*

Le Bistrot Francais 2067 Stanley. 20 tables *11:30 wk*

Chez Georges 2063 Stanley. 20 tables *12:00 wk, 17:00 Sat, closed Sun*

Pasta Tella 2055 Stanley. 16 tables

William Tell 2055 Stanley. 20 tables

Peel Pub 1106 de Maisonneuve. 100 tables *11:00 daily*

L'Orchidée de Chine corner Peel and de Maisonneuve. 20 tables

Café L'Expresso 2049 Peel. [T] 15 tables

Shoppe's 2054 Peel. Breakfast weekdays [T] 40 tables

L'Entrecote St. Jean 2022 Peel. $ 20 tables

La Capannina 2022 Stanley. 15 tables *11:00 wk, 10:30 Sat*

Le Pavillion de l'Atlantique 1188 Sherbrooke (Maison Alcan). $ 40 tables

Bars

Most bars within 20 min of conference accomodations and campus can be grouped in one of three locations: (1) Crescent/Bishop; (2) St.-Laurent; and (3) downtown. In all three areas the staff and most of the clientèle are fluent in English.

Crescent and Bishop streets are a major tourist and summer-night cruising area where it's generally more expensive than elsewhere, and where within 2 blocks there are at least a dozen bars of standard types, e.g., pick-up bars (Thursdays, Sir Winston Churchill), dance bars (Club Jaggerz), and an Irish pub with frequent live acts (Hurley's).

On St.-Laurent and a couple of adjacent streets, about 20 min to the east of McGill, is another concentration of night spots, including many of the dance bars and places with live music. Some of the better-known are:

Woodstock 3781 St-Laurent 982-0951. Rock, dance, some live acts.

Purple Haze 3699A St Laurent 285-4551. Dance-DJ; some live acts.

Le Loft 1405 St Laurent 281-8058. Alternative, underground dance.

Café Campus 57 Prince Arthur E 844-1010. DJ, live pop, rock, alternative; often very young crowd.

Zoo Bar 3556 St Laurent 848-6398. Dance.

Downtown are a few places of particular interest. First, the Mad Hatter (1463 Metcalfe) is about 10 minutes from the residences and most of the hotels, and is offering conference participants a discount on pitchers of beer ($7.00, regularly $7.50 till 11:00 pm and $9.50 thereafter). They carry some of the locally produced microbrews, and also offer decent meals at reasonable prices until 11:00 pm. Other places of potential interest:

Biddle's 2060 Aylmer 842-8656. Jazz; restaurant specializing in ribs.

Métropolis 59 Ste Catherine E (i.e., east of St.-Laurent) 288-2020. alternative, techno, rave, house music- occasional live acts; large and interesting 3-storey place.

Peel Pub 1106 Maisonneuve W 844-7296. Student hangout; cheap beer and food.

The Old Dublin 1219A University 861-4448. Irish pub with frequent live Celtic, Irish acoustic acts.

Upstairs 1254 Mackay 931-6808. Jazz; usually fairly quiet and thus easier to talk in than most other downtown bars.

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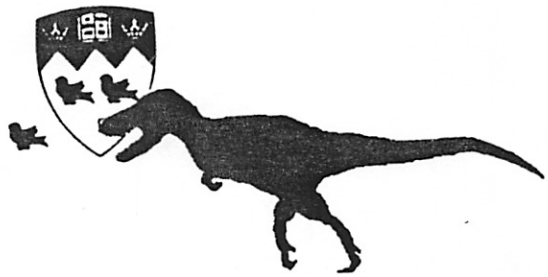


July 8 - 12, 1995
McGill University
Montreal, Quebec

Registration and Call for Papers

The 1995 annual meeting of the Society of Systematic Biologists, the Society for the Study of Evolution, the American Society of Naturalists and the 27th International Numerical Taxonomy Conference (NT-27) will be held at McGill University, Montreal, Quebec. It will take place from the 8th to the 12th of July. The local organizers for the meeting are Graham Bell, Department of Biology, and David M. Green, Redpath Museum.

CONFERENCE VENUE

Montreal - Host City, one of the most exciting cities in the world, has been host to some of the world's most prestigious events such as the 1976 Olympic Games and Expo '67. Montreal is a city that serves up its hospitality with pride and panache.

The city is a perfect marriage of old and new, of North American spirit and European charm. Montreal is very French, yet English is spoken almost everywhere. It is a study in contrasts, an enigma and a delight to those who visit it for the first time.

Montreal boasts an impressive array of restaurants offering a virtually endless selection of international fare. To dine in Montreal is a pleasure not to be missed. To experience Montreal night life is to stimulate the mind and tickle the senses. Montreal's Symphony Orchestra is world renowned. But there is much, much more - a resident opera company, over twenty professional theatre and dance groups and a host of outstanding museums.

The Montreal International Jazz Festival runs from June 29 to July 9 and is one of the five largest jazz festivals in the world. More than 350 shows are presented on indoor and outdoor stages. The Festival Bell Just for Laughs is held each year during the last week of July and is the world's largest festival of humour, with more than 300 shows indoors and out. In addition the Benson and Hedges International Fireworks competition will be held from June 17 to July 23, taking place on Ile-Nôtre-Dame on Sunday and Wednesday nights.

Downtown Montreal's safe and vibrant streets are alive at any time of the day or evening. A walk on the streets of Montreal or a ride in its ultra-clean, ultra-quiet subway, the Metro, will tell you that this is a city that welcomes you. Bienvenue!

McGILL UNIVERSITY

The University is named for the Hon. James McGill, a fur trader and merchant, who died in 1813 leaving the Burnside Place Estate and funding for the creation of a university or college. McGill College was founded in 1821. In 1885, its governors adopted the name McGill University.

The University comprises twelve faculties, eleven teaching or affiliated hospitals, eleven schools, five incorporated or affiliated colleges and numerous institutes, centres and laboratories. Over 30,000 full or part-time students are enrolled at McGill University. McGill University's main campus is located in the centre of downtown Montreal.

SCIENTIFIC PROGRAM - PRELIMINARY SCHEDULE

	Saturday - July 8	Sunday - July 9	Monday - July 10	Tuesday - July 11	Wednesday - July 12
8:30 am - 12:00		Opening & Welcome SSB Symposium: Phylogenetics of Historically-Associated Lineages Concurrent Sessions	SSE Symposium: Mutation and Evolution NT Symposium: Analysis of Morphometric Data Concurrent Sessions	SSE Symposium: Molecular Mechanisms of Evolutionary Adaptation Concurrent Sessions	SSE Symposium: Mapping Quantitative Trait Loci SSE Symposium: Rapid Evolutionary Change in Wild Populations Concurrent Sessions
12:00 - 2:00 pm		**Lunch Break \ Board Meetings**			
2:00 pm - 5:30 pm	Registration: Leacock 232 Society Board Meetings	ASN Young Investigators Prize Symposium Concurrent Sessions	ASN Vice-Presidential Symposium: Evolution of Specialization NT Panel Discussion: Systematics Agenda 2000 NT Presidential Address Concurrent Sessions	SSB Symposium: Contribution of Molecular Evolution in Molecular Systematics Concurrent Sessions	Departure
		Dinner Break		6:00 pm Banquet	
	6:30 pm Welcome Reception Redpath Hall Terrace	8:00 pm ASN Presidential Address Posters	8:00 pm SSB Presidential Address Posters	9:00 pm SSE Presidential Address	

Coffee Breaks will be scheduled each day at 10:00 am and 3:30 pm.

REGISTRATION AND INFORMATION DESK

All sessions take place in the Stephen Leacock Building on McGill's main campus. Your meeting materials can be picked up at the Registration and Information Desk which will be located at:

Stephen Leacock Building
McGill University, Main Campus
855 Sherbrooke Street West

It will be open at the following times:

Saturday, July 8 - 2:00 pm - 8:00 pm
Sunday, July 9 - 8:00 am - 6:00 pm
Monday, July 10 - 8:00 am - 6:00 pm
Tuesday, July 11 - 8:00 am - 6:00 pm
Wednesday, July 12 - 8:00 am - 2:00 pm

SSB SYMPOSIA

Society of Systematic Biologists (SSB):

The Contribution of Molecular Evolution to Molecular Systematics

Organizer: Chris Simon, University of Connecticut, (email: csimon@uconnvm.uconn.edu)

K. Kjer	"Sequence alignment using secondary structural constraints can dramatically affect molecular phylogenetic conclusions"
A. Cooper	"Comparative alignment and refined secondary structure models for mitochondrial small subunit rRNA"
J. Sullivan	"Patterns of molecular character evolution on known phylogenies can be used to assess the phylogenetic usefulness of rRNA and protein-coding genes and to compare weighting strategies"
N. Perna	"Compositional patterns, nucleotide substitutions, and the evolution of animal mitochondrial DNA"
T. Collins	"Nucleotide composition bias and related molecular constraints, and their effects on phylogenetic inference"
R. Hickson	"Looking at nucleotide sequence data with spectral analysis"

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

Organizers: Richard O'Grady, National Museum of Natural History and Mark Siddall, Virginia Institute of Marine Science, (email: rogrady@delphi.com)

R. Page	"Genes, organisms and areas: a new threefold parallelism?"
D. Brooks	"Parsimony and component: what do they really do - and why?"
W. Maddison	"Gene trees in species trees"
J. Doyle	"Genes and their trees: connections between levels in the hierarchy of life"

SSE SYMPOSIA

Society for the Study of Evolution (SSE):

Mapping Quantitative Trait Loci

Organizer: Zhao-Bang Zeng, North Carolina State University, (email: zeng@stat.ncsu.edu)

Speakers: T. MacKay, J. Doebley, T. Mitchell-Olds, Z-B. Zeng, W. Beavis

Rapid Evolutionary Change in Wild Populations

Organizer: Elizabeth Boulding, Simon Fraser University, (email: elizabeth_boulding@sfu.ca)

Speakers: R. Grant, F. Cooke, E. Boulding, J. Myers, S. Carroll, C. Parmesan, D. Schluter

Mutation and Evolution

Organizer: David Houle, University of Oregon, (email: dhoule@oregon.uoregon.edu)

Speakers: J. Drake, L. Chao, T. MacKay, P. Keightley, A. Kondrashov, D. Houle

Molecular Mechanisms of Evolutionary Adaptation

Organizer: Douglas Crawford, University of Chicago

Speakers: D. Crawford, D. Dykhuizen, F. Berger, S.C. Hand, P. Heinstra, C.C. Laurie, P. Walsh

ASN SYMPOSIA

American Society of Naturalists (ASN):

The Evolution of Specialization
Organizer: May Berenbaum, University of Illinois, (email: may_berenbaum@qms1.life.uiuc.edu)

M. Berenbaum "On specialization, speciation and evolutionary 'success'"
J. Fry "Genotype-environment interaction for fitness and the evolution of specialization"
K. Spitz "Evolution of a generalist genotype: assessing the adaptiveness of phenotypic plasticity"
M. McPeek "Mixing community-level and phylogenetic approaches to understand the coexistence of generalists and specialists in multiple food webs"
B. Wiegmann "The phylogenetics of specialization: inferences from insects"

NT SYMPOSIUM AND PANEL DISCUSSION

Numerical Taxonomy Group (NT):

Recent Developments in the Analysis of Morphometric Data
Organizer: F. James Rohlf, State University of New York, Stony Brook, (email: rohlf@sbbioum.gitnet)

Systematics Agenda 2000: Quantitative and Evolutionary Morphology
Organizer: Richard J. Jensen, Saint Mary's College, (email: rjensen@saintmarys.edu)

SATELLITE MEETING

Symposium on Molecular Evolution and Adaptive Radiation
July 7-8, 1995
McGill University

Please contact:

Professor Thomas J. Givnish
Dept. of Botany
University of Wisconsin
Madison, WI
U.S.A. 53705
Email: givnish@macc.wisc.edu.us

by May 15, 1995, for further information.

ON ARRIVAL

We recommend that you check in at your hotel or residence before proceeding to the meeting.

GROUND TRANSPORT

Overseas flights arrive at Mirabel International Airport, 56 kilometres (35 miles) from downtown Montreal. Reliable, frequent bus transportation to the downtown bus depot at the Queen Elizabeth Hotel costs $13.00 Cdn., while taxi fare can run as high as $60.00 Cdn. Bus tickets can be purchased from the kiosk in the lobby of the airport.

Flights from other parts of Canada and from the United States arrive at Dorval Airport, a short 20 minute drive from the centre of the city. Bus fare from Dorval to the downtown depot at the Queen Elizabeth Hotel is $8.50, while taxi fare is about $25.00 Cdn. You should purchase bus tickets before boarding the bus.

SOCIAL ACTIVITIES

Welcome Reception
Saturday, July 8, 1995, 6:30 pm

A welcome reception will take place on Saturday, July 8 at 6:30 pm in Redpath Hall, on the McGill main campus. This reception is included in the registration fee for all participants at the meeting.

Banquet
Tuesday, July 11, 1995, 6:00 pm - 8:30 pm

Cost: $40.00 per person
Bishop Mountain Hall
3935 University Street

Please complete the appropriate section on the Registration Form B and include payment if you wish to attend.

CONFERENCE SECRETARIAT

Please address all correspondence to:

EVOL Secretariat
Conference Office
McGill University
550 Sherbrooke Street West
West Tower, Suite 490
Montreal, Quebec, Canada H3A 1B9

Telephone: (514) 398-3770
Fax: (514) 398-4854
Email: EVOL@550SHERB.LAN.MCGILL.CA

REGISTRATION

Registration for the Meeting includes the Welcome Reception, coffee breaks, a conference kit, Final Program and all scientific sessions. The banquet is not included in the registration fee.

Anyone wishing to attend the meeting must first register by following the instructions below:

1. Complete the enclosed registration form (Form B). Fees include the 7% Goods and Services Tax (G.S.T.) as well as the 6.5% Quebec Sales Tax (Q.S.T.). (McGill University's G.S.T. registration number is R119128981 and Q.S.T. registration number is 1006 1507 87.)

2. Registration forms and payment must be received by April 10, 1995, to qualify for the early registration discount.

3. Please note the following restrictions:

   - Requests for refunds must be submitted in writing to the EVOL Secretariat prior to May 10, 1995. An administration fee of $35.00 will be charged to cover the cost of processing the request.
   - After May 10, 1995, refund requests will not be accepted.

REGISTRATION FEES

	Before April 10, 1995		After April 10, 1995	
	$Cdn.	$U.S.	$Cdn.	$U.S.
Delegate	$160	$140	$200	$180
Student	$120	$100	$150	$130
Banquet	$ 40	$ 35	$ 40	$ 35

PAYMENT OF FEES

Canadian residents may forward their payment by credit card, personal cheque, or money order.

United States residents may forward their payment by credit card, personal cheque in U.S. funds, or money order.

Residents of other foreign countries may forward their payment by credit card or international money order in Canadian funds.

Paying by Personal Cheque or International Money Order

- Make your cheque or money order payable to "McGill University - EVOL".
- All cheques made out in Canadian funds must be drawn on a Canadian bank.
- Enclose your payment with the completed Registration Form B and mail it to the EVOL Secretariat.

Paying by credit card

- Payment may be made using Master Card, Visa or American Express credit cards.
- Indicate your credit card number, expiry date and signature on the enclosed Registration Form B. Credit card payments are processed in Canadian funds only, and will appear on individual credit card statements in the currency of the country.

HOTEL ACCOMMODATION

Rooms have been set aside for participants at:

	Single	Double
Delta Montréal 475 President Kennedy Montreal, Quebec H3A 2T4 Tel: (514) 286-1986	$102.00 Cdn.	$102.00 Cdn.
Le Cantlie Sherbrooke 1110 Sherbrooke West Montreal, Quebec H3A 1G9 Tel: (514) 844-2000	$92.00 Cdn.	$92.00 Cdn.
Best Western Ville Marie, 3407 Peel Street Montreal, Quebec H3A 1W7 Tel: (514) 288-4141	$77.00 Cdn.	$82.00 Cdn.
Co-Ed Residences (single rooms only) 3935 University Street Montreal, Quebec H3A 2B4 Tel: (514) 398-6367	$42.00 Cdn. (delegate) including breakfast and taxes $33.00 Cdn. (student) including breakfast and taxes	

HOW TO RESERVE A ROOM

1. Please complete Form B. Accommodation will be booked only on receipt of the correct conference registration fee.
2. Do not enclose hotel or Residence payment. This is made directly to the hotel or to McGill Residences on departure.
3. The deadline for guaranteed reservations is June 1, 1995. It is essential that you reserve in advance to ensure a reservation on arrival.
4. Hotel and residence accommodation will be booked and confirmed directly to you by mail by the facility.
5. A 7% Goods and Services tax (G.S.T.) and 6.5% Quebec Sales Tax (Q.S.T.) will be applied to hotel rates.
6. A valid credit card number must be indicated on the housing form to guarantee your first night's accommodation with the hotel or residence. Tell them if you will arrive late.

Note:
Parking arrangements can be made at the reservation desks of the hotels and McGill Co-Educational Residences when you arrive.

CALL FOR PAPERS - Deadline: April 10, 1995

Instructions:
Please complete the **Call for Papers FORM A** if you wish to present a paper or poster. Please type. It is important that the title is clear and informative because no abstracts will be issued with the program. You may return FORM A by mail or by fax, but **not** by email. If you fax your form, do **not** send a copy by mail. If you have special requests for scheduling, include them with FORM A when you return it; we shall not consider any later requests. All submissions will be acknowledged. You do not need to reply to the letter of acknowledgement unless you wish to change or correct details of your paper; this will be the only time that changes or corrections will be permitted.

Please rank, in descending order in the boxes provided on FORM A, the topic areas that best describe your paper or poster: (1 = 1st choice, 2 = 2nd choice, 3 = 3rd choice):

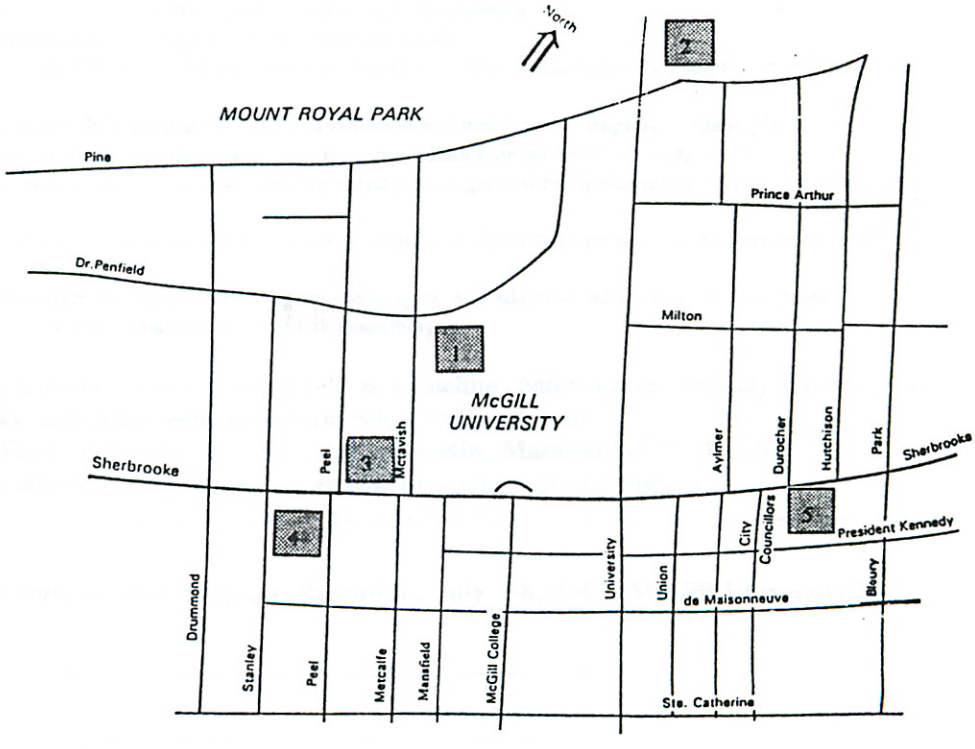
Subject Areas:

1. Evolutionary theory
2. Adaptation and plasticity
3. Experimental evolution
4. Life histories and development
5. Sexual selection
6. Hybridization and sexual isolation
7. Speciation and cladogenesis
8. Geographic variation and hybrid zones
9. Coevolution
10. Molecular evolution
11. Ecological genetics
12. Community ecology
13. Population ecology
14. Population genetics
15. Quantitative genetics
16. Molecular systematics
17. Biogeography
18. Phylogeny reconstruction
19. Comparative biology
20. Paleontology and macroevolution
21. Numerical Taxonomy
22. Behaviour
23. Other (please specify in space provided on FORM A)

Overhead projectors and screens are standard equipment in session rooms. Please indicate any additional audio-visual equipment required on FORM A.

McGill University and Vicinity

1. Stephen Leacock Building
2. McGill Co-Educational Residences
3. Best Western Ville Marie
4. Le Cantlie Sherbrooke
5. Delta Montreal



Evolution of Aging

Symposium on Molecular Evolution and Adaptive Radiation

T. J. Givnish and K. J. Sytsma, organizers
July 7-8, 1995, McGill University

Adaptive radiation - the rise of a diversity of ecological roles within a lineage - is one of the most important processes bridging ecology and evolution. Yet, it has become increasingly clear that many of the classic studies of adaptive radiation are flawed. Often, the very characters whose radiation is being studied (e.g., beak size and shape) are used to classify the organisms in question; this can lead to circular reasoning, with character-states being traced down evolutionary pathways determined, at least in part, by the character-states themselves.

Clearly, any rigorous study of an adaptive radiation must be based on a phylogeny that is independent of the traits involved in that radiation. The emergence of molecular systematics has thus made the time ripe for a revolution in the study of adaptive radiation, allowing several key questions at the interface of ecology, evolutionary biology, systematics, and biogeography to be addressed satisfactorily for the first time.

This symposium will attempt to synthesize the recent explosion of research on adaptive radiation based on molecular systematics, assembling a distinguished international group of investigators who study a wide range of issues in a diversity of organisms in various geographical contexts.

Peter Grant (Princeton University) • Ecology and evolution of Darwin's finches in the Galapagos
Robert Bleiweiss (University of Wisconsin) • Adaptive radiation and speciation in Andean hummingbirds
Axel Meyer (SUNY at Stony Brook) • Ecological diversification in African Rift Lake cichlids
Dolph Schluter (University of British Columbia) • History of ecological selection pressures in sticklebacks: experimental approaches
John Kirsch (University of Wisconsin) and Francois-Joseph Lapointe (Universite de Montreal) • You aren't always what you eat: evolution of nectar-feeding among Old World fruitbats
Ines Horowitz (SUNY at Stony Brook) • Adaptive radiation in New World monkeys
Mark Springer (University of California at Riverside) and John Kirsch • The chronicle of marsupial evolution
Todd Jackman and Jonathan Losos (Washington University) • Phylogenetic studies of community assembly in Caribbean Anolis lizards
Naomi Pierce (Harvard University) • Adaptive radiation in food plants and ant-symbioses among lycaenid butterflies
Brian Farrell (University of Colorado) • Diversification and insect-plant interactions in phytophagous beetles
Andrew Smith and D. T. J. Littlewood (British Museum) • Diversification of the echinoderms
Bruce Baldwin (University of California at Berkeley) • Adaptive radiation of the Hawaiian silversword alliance (Asteraceae): conflict and congruence of phylogenetic data from chloroplast DNA, nuclear rDNA, and cytogenetics
Spencer Barrett (University of Toronto) • Systematics and evolution of the Pontederiaceae
Mark Chase (Royal Botanic Gardens, Kew), Harold Hills, and Jeffrey Palmer • Floral evolution, pollinator relationships, and cpDNA variation in neotropical orchids
Thomas Givnish and Kenneth Sytsma (University of Wisconsin) • Adaptive radiation and molecular in tropical montane plants
Scott Hodges (University of Georgia) • Floral evolution in columbines: an explosive radiation on an intercontinental scale.
Eric Knox (Yale University and East African Herbarium, Nairobi) • Adaptive radiation and geographic speciation in Afro-alpine lobeliads and dendrosenecios
Ann Sakai and Steven Weller (University of California at Irvine) • Adaptive radiation in floral biology and breeding systems in Schiedea (Caryophyllaceae) on Hawai'i
Douglas Soltis and Pamela Soltis (Washington State University) • Phylogeny, geography, and adaptive radiation in the Proteaceae
Amy McCune (Cornell University) • Repeated parallel radiations in fossil fish assemblages

If you would like to attend this symposium (which is being held as a satellite conference immediately preceding the joint meeting of SSB, SSB, ASN and NT), please detach the registration form below and send it to:

Professor Thomas J. Givnish, Dept. of Botany, University of Wisconsin, Madison WI 53705 USA

by May 15, 1995. You can request additional information by sending an email to givnish@macc.wisc.edu.

Symposium on Molecular Evolution and Adaptive Radiation, July 7-8, 1995, McGill University

Name _____
Address _____
_____
_____
_____
Phone _____
email _____
Registration fee ____$US 12 ____$US 7 (student) (please make check payable to "UW Botany")

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.

Table of Contents

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 -11:00 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

8:00 - 8:30
Session 1 Plenary
Welcoming Remarks

8:30 - 12:00
Session 2 Symposium
Phylogenetics of Historically-Associated Lineages: Parasites and Hosts, Taxa and Areas, Genes and Species

Session 3 Concurrent
Conservation Genetics

Session 4 Concurrent
Comparative Analysis of Adaptation

Session 5 Concurrent
Selection: Theory and Practice

10:00 - 10:30
Break

Session 6 Concurrent
Molecular Evolution: Gene Evolution

Session 7 Concurrent
Evolution and Behaviour

Session 8 Concurrent
Local Adaptation

Session 9 Concurrent
Hybridization

Session 10 Concurrent
Sex and Evolution

12:00 - 2:00
Lunch

2:00 - 5:30
Session 11 Symposium
ASN Young Investigators' Prize

Session 12 Concurrent
Phylogenetic Methods: Theory and Practice

Session 13 Concurrent
Evolution of Phenotypic Plasticity

Session 14 Concurrent
Gender Evolution and Allocation

Session 15 Concurrent
Molecular Phylogeny: Arthropods

3:30 - 4:00
Break

Session 16 Concurrent
Hybrid Zones and Species Complexes

Session 17 Concurrent
Response to Environmental Change

Session 18 Concurrent
Experimental Evolution

Session 19 Concurrent
Molecular Evolution: Large-Scale Phylogeny

8:00 - 9:00
Session 20 Plenary
ASN Presidential Address
In Defense of Founder Flush Speciation

9:00 - 11:00
Session 21 Poster
Mostly Evolution

Monday, 10th July

Session 22 Symposium
Recent Developments in the Analysis of Morphometric Data

Session 23 Concurrent
Mutation and Evolution

Session 24 Concurrent
Phylogenetics: Reptiles and Birds

Session 25 Concurrent
Quantitative Genetics

Session 26 Concurrent
Species and Speciation

Session 27 Concurrent
Numerical Taxonomy and Evolution

Session 28 Concurrent
Molecular Evolution: Estimation and Variation

Session 29 Concurrent
Phylogenetics: Mammals

Session 30 Concurrent
Evolution of Cichlids and Other Fishes

Lunch

Session 31 Symposium
Numerical Taxonomy in Quantitative and Evolutionary Morphology

Session 32 Symposium
The Evolution of Specialization

Session 33 Concurrent
Quantitative Genetics of Flies and Plants

Session 34 Concurrent
Molecular Evolution and Phylogeny: Insects

Session 35 Concurrent
Comparative Evolutionary Biology: Methods and Results

Session 36 Concurrent
Topics in Population Genetics

Session 37 Concurrent
Genetic Population Structure I

Session 38 Concurrent
Biogeography and Macroevolution

Session 39 Concurrent
Sexual Selection: Mates and Mating

Session 40 Plenary
NT Presidential Address
New Avenues in the Numerical Study of Behaviour

Session 41 Plenary
SSB Presidential Address
Salvador Dali, Flying DNA, and the Parametric Bootstrap

Session 42 Poster
Mostly Systematics

Tuesday, 11th July

8:30 - 12:00

Session 43 Symposium
Molecular Mechanisms of Evolutionary Adaptation

Session 44 Concurrent
Phylogenetics: Fish and Amphibians

Session 45 Concurrent
Coevolution

Session 46 Concurrent
Molecular Evolution: General Issues

10:00 - 10:30
Break

Session 47 Concurrent
Gene Flow and Genetic Diversity

Session 48 Concurrent
Sexual Selection: Choice and Combat

Session 49 Concurrent
Life Histories: Optimization, Correlation and Constraint

Session 50 Concurrent
Parasitic Genetic Elements

Session 51 Concurrent
Molecular Evolution: Selection

12:00 - 2:00 Lunch

2:00 - 5:30

Session 52 Symposium
Incorporating Molecular Evolution into Molecular Systematics

Session 53 Concurrent
Biogeography

Session 54 Concurrent
Molecular Systematics: Viruses, Bacteria and Invertebrates

Session 55 Concurrent
Demography

3:30 - 4:00
Break

Session 56 Concurrent
Inbreeding Depression in Plants

Session 57 Concurrent
DNA Sequence Variation

Session 58 Concurrent
Species Interactions

Session 59 Concurrent
Life Histories: Development, Dispersal and Density

Session 60 Concurrent
Genetic Population Structure II

6:00 - 8:30 Banquet

9:00 - 10:00

Session 61 Plenary
SSE Presidential Address
Light, Vision, Colour Patterns, and Behaviour: Suites of Interactive Traits and the Direction of Evolution

Wednesday, 12th July

Session 62 Symposium
Mapping Quantitative Trait Loci

Session 63 Symposium
Rapid Evolutionary Changes in Wild Populations

Session 64 Concurrent
Molecular Systematics: Fungi, Algae and Plants

Session 65 Concurrent
Genetic Variability and Metapopulations

Session 66 Concurrent
Evolution and Development

Session 67 Concurrent
Cytonuclear Interaction and Gene Evolution

Session 68 Concurrent
Molecular Population Genetics: Models and Mutations

Session 69 Concurrent
Sex Ratios and Sex Allocation

Session 70 Concurrent
Molecular Evolution: Small-Scale Variation and Phylogeny

End of formal proceedings

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

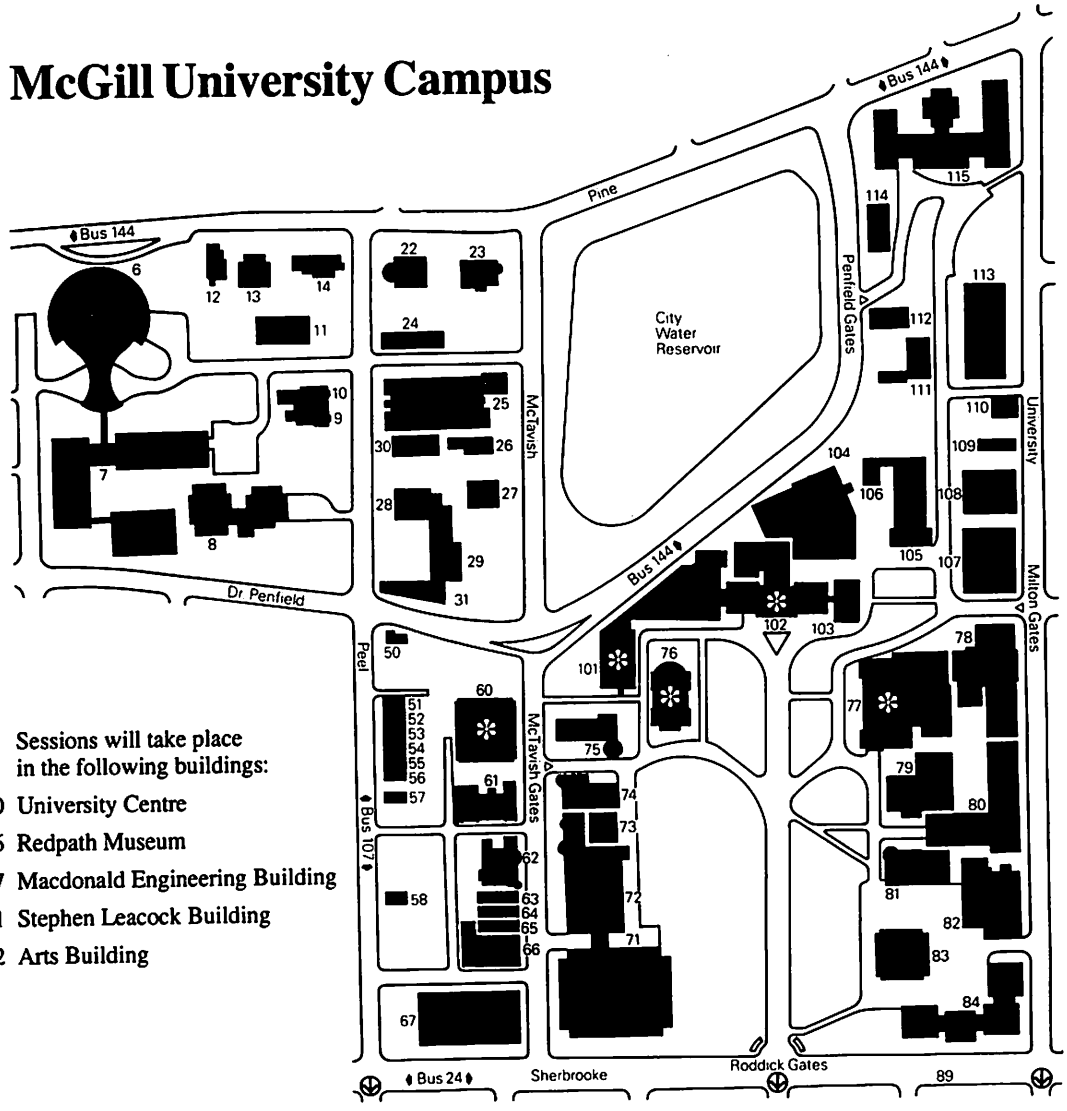
The conference banquet will take place at Bishop Mountain Hall, 3935 University Street (at the very top of the hill), Tuesday, July 11, 6:00 to 8:30 pm.

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. Zandee

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-Based 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

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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. Bernando
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. Irschick, 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, Sympatry 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

8:30 - 12:00

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

8:30 - 12:00

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. Purugganan, S. Rounsley, R. Schmidt, M. Yanofsky
9:15	45	• **Evolution of the *recA* Protein and the Phylogeny of Bacteria** * J.A. Eisen, A.I. Roca
9:30	46	**Molecular Evolution of Mitochondrial *coxI* 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

10:30 48 **The Transposition and Concerted Evolution of 5S Genes Within Other Multigene Families**
* G. Drouin

10:45 49 **The Evolution of P-Glycoprotein, A Member of the ABC Superfamily of Transporters**
* M. Ell, G. Drouin

11:00 50 **Concerted Evolution of the Rubisco Small Subunit Gene Family in the Solanaceae**
* A. Colwell, R. Olmstead

11:15 51 **Nucleotide Substitution Rates in Adh1: Comparisons Between Grass and Palm Sequences**
B. Morton, * B.S. Gaut, M.T. Clegg

11:30 52 **Evolution of Regulatory Sequences: The Lactate Dehydrogenase -B Gene in *Fundulus heteroclitus***
* P.M. Schulte, D.A. Powers

11:45 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. Stoltenberg, 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

8:30 - 12:00

Session 8 Local Adaptation

Contributed Papers
Chair: Murray Littlejohn

8:30 66 **How Does Immigration Influence Local Adaptation? A Re-examination of a Familiar Paradigm**
* R.D. Holt, R. Gomulkiewicz

8:45 67 **Molecular Phylogenetic Evidence for Adaptive Radiation Through Shifts in Habitat Preference**
* M. Stanhope

9:00 68 **Restricted Gene Flow between Locally Adapted Aphid Populations: Role of Habitat Choice**
* S. Via

9:15 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

9:30 70 **Trade-Offs of Ecological Specialization: An Intraspecific Comparison of Pumpkinseed Sunfish Phenotypes**
* B.W. Robinson, D.S. Wilson

9:45 71 **Reproductive Character Displacement in the Tree Frogs *Litoria ewingii* and *Litoria verreauxii*: A Re-examination**
* M.J. Littlejohn, G.F. Watson

10:00 Break

10:30 72 **Postmating Reproductive Isolation Between Zimbabwe and Non-Zimbabwe *Drosophila melanogaster***
* N.A. Johnson

10:45 73 **Host Effects on Body Size Associated with Host Shifts in *Enchenopa* Treehoppers**
* A.B. Shantz, K.J. Tilmon, T.K. Wood

11:00 74 **Adaptation by *Enchenopa* Treehoppers to Novel Plants in the Initial Stages of a Host Shift**
* K.J. Tilmon, T.K. Wood

11:15 75 **Experimental Insect Race Formation: Host Plant Fidelity During Mating and Oviposition**
* T.K. Wood, K.J. Tilmon

11:30 76 **Sex-Linked Loci Associated with Host Race Differentiation in Fall Armyworm *Spodoptera frugiperda***
* D.G. Heckel, J. Adamczyk, H. Fescemyer, Y.T. Ma

11:45 77 **Multiple Song Species in a Single Morphological Species: The Complex Story of a Green Lacewing, *Chrysoperla carnea***
* C.S. Henry

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8:30 - 12:00

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. Schwenk

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 (Echinoida:Strongylocentrotidae)**
* C.H. Biermann

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

Sunday, 9th July 1995: Morning

10:30	84	**Formation of a Hybrid Population: Production of F1 Progeny Constrains the Frequency and Genotypes of Future Hybrid Generations** S.A. Hodges, * J.M. Burke, M.L. Arnold
10:45	85	**Effective Hybridization in Sympatric Populations of Milkweeds (*Asclepias exaltata* and *Asclepias syriaca*)** * S.B. Broyles, C. Vail, D. Laffin, S. Bauer
11:00	86	**The Origin and Maintenance of a New Tetraploid *Senecio* Hybrid in York, England** * A. Lowe, R. Abbott
11:15	87	**Effects of Pollen-Tube Growth Rate and Ovule Position on Hybridization in the Louisiana Irises** * S.E. Carney, S.A. Hodges, M.L. Arnold
11:30	88	**Fitness of Hybrids in Two Oak Hybrid Zones** * J.H. Williams Jr., W.J. Boecklen, D.J. Howard
11:45	89	**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

8:30 - 12:00

Session 10 Sex and Evolution

Contributed Papers
Chair: Gary Sullivan

8:30	90	**The Effect of Sex on the Variance in Fitness and Mean Fitness: An Experiment with *Chlamydomonas*** * J. Da Silva, G. Bell
8:45	91	**Sex and the Tangled Bank: Sex Provides No Benefit to *Paramecium* in a Complex Environment** * A.O. Parman
9:00	92	**Tropical Ostracodes and the Ecology of Sex** * T.J. Little, P.D.N. Hebert
9:15	93	**Antigenic Variation and Intragenic Recombination in the *ospc* gene of *Borrelia burgdorferi*** * D. Dykhuizen, D. Guttman, B. Luft
9:30	94	**Change of Genetic Architecture in Response to Sex** * H. Deng, M. Lynch
9:45	95	**Molecular Markers Reveal Cryptic Sex in the Human Pathogen *Coccidioides immitis* (Fungi)** * A. Burt, D.A. Carter, G.L. Koenig, T.J. White, J.W. Taylor
10:00		Break
10:30	96	**Molecular Evidence for Sex Without Genetic Recombination in the Metagenic Life-Cycle of *Eleutheria dichotoma* (Hydrozoa)** * B Schierwater, H. Hadrys
10:45	97	**Genetic Evidence for Ancient Loss of Sex in Bdelloid Rotifers** * D. Welch, J. Mark, A. Fagen, M. Meselson
11:00	98	**Origins of Polyploidy in Obligately Asexual Lineages of the *Daphnia pulex* Complex from Arctic North America** * F. Dufresne, P.D.N. Hebert
11:15	99	**Vegetative Reproduction and Mutational Meltdown in Small Populations of a Rare Eucalypt Species** * W.J. Kennington, S.H. James
11:30	100	**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**
* G. Arnqvist

4:45 104 **The Evolutionary Transition Between Haploidy and Diploidy**
* 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. Streelman

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. Balis, 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 *Amphicarpaea 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.I. 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. Ritland, T. Mousseau

3:00 133 **Genetic and Social Control of Male Maturation in *Phallichthys quadripunctatus* (Pisces:Poeciliidae)**
* G.R. Kolluru, D.N. Reznick

3:15 134 **Genetic Polymorphism for Alternative Male Mating Strategies in the Ruff (Aves: Scolopacidae): Support From Pedigree Data**
* D.B. Lank, C.M. Smith

3:30 Break

Sunday, 9th July 1995: Afternoon

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

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. Elle

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 Nephiline 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: Lyaeidae) Which Occur in Western Canada**
* D. Mulyk

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

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

5:00 151 **Molecular Phylogeny of Giant Silk Moths (Sarurniidae: 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

2:00 - 5:30

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.F. 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* (Lepidopteria: 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

2:00 - 5:30

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. Scheffer

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

4:30 172 **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. Krukonis

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 Anthelminthic 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 Theory**
*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

Leacock 219

2:00 - 5:30

Session 19 Molecular Evolution: Large-Scale Phylogeny

Contributed Papers
Chair: Lefteri Zouros

2:00	188	**The Universal Tree of Life: Can the Root Be Resolved?** * J.R. Brown, W.F. Doolittle
2:15	189	**The Evolutionary Origin of Slime Molds, Mycetozoa, and Their Relationship to Higher Eukaryotes** * S.L. Baldauf, W.F. Doolittle
2:30	190	**Phylogenetic Characterization of Bacteria Associated with Gills of Deep-Sea Hydrothermal Vent Crustaceans** * R. Feldman, T. Shank, R. Lutz, R. Vrijenhoek
2:45	191	**Peculiarities of Molluscan Mitochondrial DNA** * E. Zouros, C. Saavedra, D. Stewart, R. Hoeh
3:00	192	**Accelerated Rates of Molecular Evolution in Bivalves** * D. Stewart, R. Hoeh, E. Zouros
3:15	193	**Expression of a Conserved Body-Patterning Gene in Radially Symmetrical Echinoderms** * G. Wray, C. Lowe, D. Jauies
3:30		Break
4:00	194	**The Molecular Evolution of 18s rDNA in Angiosperms** E.R. Waters, * G. Bharathan
4:15	195	**Mitochondrial DNA and Monocot-Dicot Divergence Time** * J. Laroche, P. Li, J. Bousquet
4:30	196	**Evolutionary History of Duplication Events in the Vertebrate Lactate Dehydrogenase Gene Family** D. Stock, J. Quattro, G. Whitt, * D. Powers
4:45	197	**Evolutionary Rate Heterogeneity in the Mitochondrial 16S rRNA of Teleost Fishes: Secondary Structural Constraints and Phylogenetic Implications** J. Alves-Gomes, * A.M. Shedlock, M.G. Haygood
5:00	198	**Relative Rates of Evolution of the Cytochrome-b Gene Among Rodents** * T.A. Spradling, M.S. Hafner
5:15	199	**Microsatellites and Human Evolution** * D. Goldstein, A. R. Linures, L.L. Cavalli Sforza, M.W. Feldman

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* Dougl.**
* 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. Schaeffer

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. Roche, 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 Diapause**
* 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. Kohn

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. Vercaemer, * B. Gjetvaj, C.M. Herbinger, R.K. O'Dor

228 **Impact of Genomic Interactions on Stress Resistence and Expression of Heat Shock Proteins in Hybrids of *Poeciliopsis***
* P. d'Iorio, 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 flocossa***
* 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. Dominiquez

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 vineule***
* 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 obtecus*): Selection for Early and Late Reproduction**
* I. Gliksman, D. Milanovic, S. Mikuljanac, O. Stojkovic, D. Seslija

Sunday, 9th July 1995: Evening

244 **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

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

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

247 **How to Quantify Degree of Specialization**
* K. Iwao

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

249 **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

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

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

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

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

254 **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

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

256 **Competition, Plasticity and Selection in Marine Stickleback Colonization Events**
* J.R. Pritchard, D. Schluter

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

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

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

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

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

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

263 **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

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

265 **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

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

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

268 **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. Aeby

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. Camancho

272 **Somatic Condition is the Main Determinant of Female Mating Success in the Grasshopper *Eyprepocnemis 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. Berteaux

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. Gardezi, J. da Silva

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

277 **Testing Pattern and Process Predictions on the Evolution of Secondary Sexual Characters in Southeast Asian Frogs**
* 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

Arts 125

8:30 - 12:00

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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8:30 - 12:00

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

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8:30 - 12:00

Session 24 Phylogenetics: Reptiles and Birds

Contributed Papers
Chair: Christopher Austin

8:30 297 **Phylogeny of the Spiny Lizards (*Sceloporus*): 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 Scincid Lizards**
* C. Austin

9:15 300 **Phylogeny and Biogeography of Middle American Jumping Vipers, *Atropoides***
* P.T. Chippindale, L.K. Ammerman, J.A. Campbell

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 tanager*** * K.J. Burns
10:00		Break
10:30	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 Ecophylogenetics** * 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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8:30 - 12:00

Session 25 Quantitative Genetics

Contributed Papers
Chair: Anthony Zera

8:30	309	**Dominance Variance: Associations with Selection and Fitness** * P. Crnokrak, D. Roff
8:45	310	• **Phylogenetic Analysis of the Evolution of Phenotypic Covariance Matrices: From Populations to Genus** * S. Steppan
9:00	311	**Selection on Sex Appeal: Variability of Correlated Responses** * M.H. Gromko, J. McConnell
9:15	312	**The Evolution of Genetic Correlations: An Analysis of Patterns** * D. Roff
9:30	313	**Laboratory Heritabilities: Reliable Estimates of Field Values or Gross Exaggerations?** * I. Weigensberg, D. Roff
9:45	314	**Dominance Variance in Inbred Pedigrees** * F.H. Shaw
10:00		Break
10:30	315	**A Diallel Analysis of Juvenile Traits in *Nemophila menziesii*** * R.G. Shaw, G.A.J. Platenkamp
10:45	316	**Determinants of Reproductive Traits in *Nemophila menziesii*: Analysis of an Extended Pedigree** * D. Byers, R. Shaw
11:00	317	**The Effect of a Variable Environment on Genetic Correlations in a Field Cricket** * A.M. Simons, D.A. Roff
11:15	318	• **Genetics and Development of a Butterfly Eyespot Pattern: How Selection for Eyespot Shape Influences Wing Shape** * A. Monteiro
11:30	319	**Selection on Insect Endocrine Traits: Response, Correlation and Evolutionary Implications** * A. Zera

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8:30 - 12:00

Session 26 Species and Speciation

Contributed Papers
Chair: Stephen Palumbi

8:30 320 **Retrospection and Prospection in Definitions of Species**
* D.A. Baum

8:45 321 **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

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10:30 - 12:00

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

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8:30 - 12:00

Session 28 Molecular Evolution: Estimation and Variation

Contributed Papers
Chair: Richard Kliman

8:30 338 **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. Kolzkowski

9:45 343 **Multiple Levels of Change in a Tetramer Microsatellite**
* P. Palsboll, 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

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8:30 - 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

8:45 351 **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

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

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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. Ruzzante, 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. Orsoy, H. Cruz-Lopez, S. Seyoum

Monday, 10th July 1995: Afternoon

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2:30 - 5:30

Session 31 Numerical Taxonomy in Quantitative and Evolutionary Morphology

Symposium
Chair: Richard J. Jensen

374 **Panel Discussion: Numerical Taxonomy in Quantitative and Evolutionary Morphology**
* R.J. Jensen, J. Cracraft, T. Dickinson, T. Garland, W. Lamboy, J. McNeill

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2:00 - 5:30

Session 32 The Evolution of Specialization

Symposium
Chair: May Berenbaum

2:00 375 **Introduction: Specialization, Speciation, and Speculation**
* M. Berenbaum

2:30 376 **The Evolution of Specialization: Are "Trade-Offs" Overrated?**
* J. Fry

3:00 377 **Evolution of A Generalist Genotype - Assessing the Adaptiveness of Phenotypic Plasticity**
* K. Spitze

3:30 Break

4:00 378 **Mixing Community-Level and Phylogenetic Approaches to Understand the Coexistence of Generalists and Specialists in Multiple Food Webs**
* M. McPeek, J. Brown

4:30 379 **The Phylogenetics of Specialization: Inferences From Insects**
* B. Wiegmann

5:00 380 **Concluding Remarks**
* M. Berenbaum

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2:00 - 5:30

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?**
* A.D. Long, S.L. Mullaney, C.H. Langley, L.A. Reid, T.F.C. Mackay

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

2:30 383 **Quantitative Genetics of Ovariole 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. Otterson, 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. Dorn, T. Mitchell-Olds
4:45	390	**Genetic Variation in Life-History Traits within and among Populations of *Impatiens capensis*** * C. Paoletti, 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. Schawaroch, R. DeSalle, G. Simmons
2:45	396	• **Molecular Systematics of *Drosophila repleta* Group Species** * R. Baker, W.B. Heed, W.J. Etges, 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 Ribonsomal 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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2:00 - 5:30

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

2:15 406 **Conducting Phylogenetic Comparative Studies when the Phylogeny is Unknown**
* E.P. Martins

2:30 407 **Inference and Fallacious Reasoning in Studies of Character Evolution: to Include or Exclude the Characters of Interest during Tree Reconstruction?**
* K. de Queiroz

2:45 408 **Character Correlation in Phylogeny: Examples Using Biomechanical and Life History Data**
* M. Westneat

3:00 409 **Where Phylogeny Meets Ecology: Character State Evolution in the Genus *Daphnia***
* J.K. Colbourne, M.J. Beaton, P.D.N. Hebert

3:15 410 **Evolutionary Comparative Analyses of Plant Range Size Using the Floras of Great Britain and Crete**
* C.K. Kelly, Y. Hoff

3:30 Break

4:00 411 **The Roles of Historical Constraints and Adaptation in the Evolution of Behavior among a Tribe of Ant-Guest Beetles**
* J.A. Danoff-Burg

4:15 412 **Phylogeny and the Evolution of Nonfertilizing Sperm in the *Drosophila obscura* Group**
* R. Snook

4:30 413 **Evolution of Ecological Types and Eye Dimensions in Garter Snakes**
* A. de Queiroz

4:45 414 **Avian Brain-Body Size Relationships: Influence of Taxonomic Level**
* P.M. Nealen, R.E. Ricklefs, J.M. Starck

5:00 415 **Correlated Evolution of Canopy Architecture in the Genus *Acer*: A Phylogenetic Approach**
* D. Ackerly, M. Donoghue

5:15 416 **Statistical and Phylogenetic Analyses for Allometric Evolution of Scapula Size in Terrestrial Squirrels**
* D. Swiderski

Macdonald Engineering Building 497

2:00 - 5:30

Session 36 Topics in Population Genetics

Contributed Papers
Chair: Helene Glemet

2:00 417 **Genetic Structure and the Evolution of Self/Nonself Recognition in Hydroids**
* R. Grosberg, D. Levitan

2:15 418 **Clonal Variation in Life History and Biochemical Composition of the Euryhaline Sea Anemone *Haliplanella lineata***
* M. McManus, W.E. Zamer, C. Rowell

2:30 419 **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

2:45 420 **Stability and Selection: Long Term Changes in the Genetic Structure of a *Daphnia* Population**
* D.G. Stirling

3:00 421 **"Adaptive" Zonation of Allozyme Variants in the Intertidal Acorn Barnacle *Semibalanus balanoides***
* P. Schmidt, D. Rand

3:15 422 **Evolutionary Significance of Mitochondrial Introgression in Fish (*Salvelinus fontinalis*) Assessed by Physiological Performance**
* H. Glemet, P. Blier, L. Bernatchez

Monday, 10th July 1995: Afternoon

3:30 Break

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

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2:00 - 5:30

Session 37 Genetic Population Structure I

Contributed Papers
Chair: Sergio Matioli

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. Hare, 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 1(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

5:15 440 **t.b.a.**

Monday, 10th July 1995: Afternoon

Redpath Museum Auditorium

2:00 - 5:30

Session 38 Biogeography and Macroevolution

Contributed Papers
Chair: John Alroy

2:00 441 **Complex Phylogeographic Pattern in the Carib Grackle**
* G. Seutin, J. Hunt, R.E. Ricklefs, E. Bermingham

2:15 442 **An mtDNA Assessment of the Avian Colonization of Barbados**
* I. Lovette, G. Seutin, R.E. Ricklefs, E. Bermingham

2:30 443 **The Simultaneous Diversification of Echimyid Rodents (Caviomorpha): A Star-Phylogeny Based on Complete Cytochrome b Sequences**
* M. Lara, J.L. Patton, M.N.F. da Silva

2:45 444 **Genetic Structure of *Gymnures* (Mammalia: Erinaceidae) on Continental Islands: Historical Effects of Fragmentation**
* M. Ruedi, L. Fumagalli

3:00 445 **A Test of Pleistocene Montane Refugia Using mtDNA Divergence among Highland *Peromyscus mexicanus* Species Group Taxa**
* P.J. Coeverden de Groot, M.D. Engstrom

3:15 446 **Macroeconomics and Macroevolution: Is Submarine Volcanism the Key to Innovation and Diversification?**
* G. J. Vermeij

3:30 Break

4:00 447 **Macroevolution Reflected in the Shapes of Evolutionary Trees: Patterns in Tree Balance with Variable and Evolving Speciation Rates**
* S.B. Heard

4:15 448 **The Radiation of Modern Birds Predates the K/T Boundary: Molecular Evidence**
* A. Cooper, D. Penny

4:30 449 **Is Mammalian Diversity an Integrated Evolutionary System?**
* J. Alroy

4:45 450 **A Simple Measure of Developmental Complexity**
* D.W. McShea, P.D. Gingerich

5:00 451 **Testing Higher-Taxon Innovation in Rugged Fitness Landscapes: The Fossil Record**
* G. Eble

5:15 452 **Phylogenetic Analysis of the Zosterophyllophytina: Prospects and Pitfalls of Doing Cladistics With Lower Devonian Plants**
* D.P. Jensen, P.G. Gensel

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2:00 - 5:30

Session 39 Sexual Selection: Mates and Mating

Contributed Papers
Chair: Margaret Ptacek

2:00 453 **Mate Recognition in a Unisexual/Bisexual System of Poeciliid Fish**
M.D. Ryan, * L.A. Dries, P. Batra, D.M. Hillis

2:15 454 **Mating Success in the Milkweed Beetle *Tetraopes tetraophthalimus***
* D. Lofsvold

2:30 455 **The Influence of Female Size and Population Origin on Male Mating Behaviors in the Sailfin Molly, *Poecilia latipinna***
* M.B. Ptacek

2:45 456 **Genetics of Pheromone Production and Response in the Turnip Moth, *Agrotis segetum***
* S. LaForest, W. Wu, C Lofstedt

3:00 457 **Male Genital Modification: A Sexual Selection Interpretation**
* R. Rowanchilde

Monday, 10th July 1995: Afternoon

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. Jennetten

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

Arts 125

4:00 - 5:00 **Session 40 NT Presidential Address**

Plenary
New Avenues in the Numerical Study of Behaviour
P. Legendre

Monday, 10th July 1995: Evening

Leacock 132

8:00 - 9:00 pm

Session 41 SSB Presidential Address

Plenary

Salvador Dali, Flying DNA, and the Parametric Bootstrap
D.M. Hillis

Shatner Ballroom

9:00 - 11:00 pm

Session 42 Mostly Systematics

Poster

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. Rannala

468 **Genetic Structure of *Drosophila ruberrima* (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. Wenne, D.O.F. Skibinski, M. Pempera

471 **Genetic Structure of Butterfly Populations from the *Jethys* Complex (Lepidoptera:Papilionoidea: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)**
* A.S. Gerber

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. Alaeida-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 **Camparative Study of the Chorionic Ultrastructure in the *dunni* Subgroup and Related Groups in the Genus *Drosophila***
* L.J. Resto

Monday, 10th July 1995: Evening

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. Omland

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)**
* I.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. Pacejka

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

Monday, 10th July 1995: Evening

507 **Examining Patterns of Organismal Diversity Using a Combined Null Model for Phylogenetic Tree Node Analysis**
* N.J. Gompper

508 **t.b.a.**

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

510 **Moth Phylogeny Based on Two Nuclear Genes:Eh-1α 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. Jaenike

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

516 **The *Bactrocera xanthodes* 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) (Bivalvia: Corbiculidae)**
* H. Severeyn, Y. Itarua 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. Arctander, * J. Gatesy

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

523 **Phylogeny of the Sturgeons Derived from 18S rRNA Sequences**
* J. Kreiger, T. Cavender, P.A. Fuerst

524 **Phylogenetic Relationships in Noctuoids 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

Monday, 10th July 1995: Evening

532 **Genetic Structuring in Three Sub-Species of San Joaquin Kangaroo Rat (*Dipodomys nitratoides brevinasus, D.n. 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 coxI 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 Phylogenetic 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 Distrubution**
* C. Hsiao, N.J. Chatterton, K.H. Asay

Tuesday, 11th July 1995: Morning

Leacock 26

8:30 - 12:00

Session 43 Molecular Mechanisms of Evolutionary Adaptation

Symposium
Chair: Douglas L. Crawford

8:30	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. Dykhuizen
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

8:30 - 12:00

Session 44 Phylogenetics: Fish and Amphibians

Contributed Papers
Chair: Felix Breden

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 Meo, 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. Patarnello, 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 Microhylids of Australasia** * D. Bickford

Tuesday, 11th July 1995: Morning

Leacock 219

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**
* D.H. Clayton, P.L.M. Lee, E.D. Brodie III

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 (*Parasitodiplogaster*)**
* 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. Carmean, 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

10:00 Break

10:30 585 **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 Homoplasy 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 Phosphoglucose 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. Rannala, 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***
* C. 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

Tuesday, 11th July 1995: Morning

Macdonald Engineering Building 280

8:30 - 12:00

Session 48 Sexual Selection: Choice and Combat

Contributed Papers
Chair: Daphne Fairbairn

8:30	603	**The Evolution of Mating Preferences for Fitness** * M. Kirkpatrick
8:45	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. Servedio, 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?** * J. 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

8:30 - 12:00

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. Hardes
9:30	618	**Age-Specific Patterns of Genetic Variance in *Drosophila melanogaster*. I. Mortality** * D. Promislow, M. Tatar, A. Khazael, J. Curtsinger
9:45	619	**Age-Specific Patterns of Genetic Variation in *Drosophila melanogaster*: II. Fecundity and its Genetic Correlation with Mortality** * M. Tatar, D. Promislow, A. Khazaeli, J.W. Curtsinger
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

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8:30 - 12:00

Session 50 Parasitic Genetic Elements

Contributed Papers
Chair: 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. Glasner, 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. Diluglio, B. Filanoski, Z. Lister, H.A. Wichman
9:30	629	**What is the Main Force Containing Transposable Element Copy Number?** * S. Nuahdin, T. Mackay, E. Pasyukova
9:45	630	**The Invasion of Sexual Yeast Populations by Retrotransposon Ty3** * C. Zeyl, G. Bell
10:00		Break
10:30	631	**Molecular Structure and Origin of B-Chromosomes in the Frog *Leiopelma hochstetteri*** * T. Sharbel, A. Houben, D.M. 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. Groeters
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

8:30 - 12:00

Session 51 Molecular Evolution: Selection

Contributed Papers
Chair: John Brookfield

8:30 636 **An Attempt to Detect Selection in Enhancer Sequences of *Drosophila melanogaster***
* J.F.Y. Brookfield, D.L. Jenkins

8:45 637 **Molecular Evolution of Abalone Fertilization Proteins: Functional Divergence and Positive Darwinian Selection**
* W.J. Swanson, V.D. Vacquier

9:00 638 **Concerted Evolution and Positive Darwinian Selection of the α1-Proteinase Inhibitor Gene Family in Mice**
* R.L. Goodwin, H. Baumann, F.G. Berger

9:15 639 **Natural Selection on Peptide-Binding Specificities at Class I MHC Loci**
* A.L. Hughes

9:30 640 **Molecular Systematics of Immune Cells Implicated in Human Rheumatoid Arthritis: A Coevolutionary View**
* M. Richards, L. Nelson

9:45 641 **Searching for the Consequences of Immune Selection on the Structural Proteins of Viruses**
* D. Haydon

10:00 Break

10:30 642 **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. Huai, 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. Odgers, J. Oakeshott, M. Healy

11:45 647 **Molecular Evolution of Colicins in *E.coli***
* M.A. Riley

Tuesday, 11th July 1995: Afternoon

Leacock 26

2:00 - 5:30

Session 52 Incorporating Molecular Evolution into Molecular Systematics

Symposium
Chair: Chris Simon

2:00 648 **Conserved Motifs, Secondary Structure, Alignment, and Phylogenetic Utility of 12S Ribosomal RNA**
* R.E. Hickson, * A. Cooper, C. Simon, J. Sullivan, G. Spicer, D. Penny

2:15 649 **Aligning rRNA Structures - Effects on Phylogenetic Conclusions and Potential for Weighting**
* K. Kjer

2:30 650 **Accommodating Among-Site Rate Variation in Phylogenetic Analysis**
* J. Sullivan, G.G.P. Naylor, K. Holsinger, C. Simon

2:45 651 **Compositional Patterns, Nucleotide Substitutions, and the Evolution of Animal Mitochondrial DNA**
* N.T. Perna, T.D. Kocher

3:00 652 **Nucleotide Compositional Bias and Related Molecular Constraints: Effects on Phylogenetic Inference**
* T.M. Collins, G.J.P. Naylor, P.H. Wimberger

3:15 653 **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

4:00 654 **Molecular Evolution of rbcL**
* E.A. Kellogg, N.D. Juliano

Redpath Museum Auditorium

2:00 - 5:30

Session 53 Biogeography

Contributed Papers
Chair: Chris Eckert

2:00 655 **Dispersal-Vicariance Analysis: A Nonhierarchical Approach to the Quantification of Historical Biogeography**
* F. Ronquist

2:15 656 **Genetic Drift and Founder Effect in an Invading Plant**
* C.G. Eckert, D. Manicacci, , S.C.H. Barrett

2:30 657 **Phylogeography of Two Recently Diverged Species of Marine Prosobranch Snails**
* P. Marko

2:45 658 **Phylogeography and Ecological Genetics of a Circumarctic Apomict, *Daphnia pulex***
* L.J. Weider, A. Hobaek, T.J. Crease, P.D.N. Hebert

3:00 659 **Biogeography, Genetic Population Structure and Evolution of *Membranipora* (Bryozoa: Cheilostomata)**
* H. Schwaninger

3:15 660 **Population Structure and Biogeography of the Acorn Barnacle *Semibalanus balanoides***
* A.F. Brown, D.M. Rand

3:30 Break

4:00 661 **Molecular Phylogenies of Evolutionary Innovations: Deep Origins of Fish- and Mollusc-Eating Cone Snails**
* T.F. Duda Jr.

4:15 662 **Molecular Systematics and Biogeography of the Central Asian Burrowing Vole (Mammalia:Rodentia:Arvicolinae)**
* C.W. Kilpatrick

4:30 663 **Phylogeography of Bats of the Atlantic Rainforest of Brazil**
* A.D. Ditchfield

4:45 664 **Intraspecific Answers to an Interspecific Question: Genetic Drift and Fluctuating Distributions Promote Frog Speciation in South-western Australia**
* D. Driscoll

5:00 665 **The Biogeography and Phylogeny of Rhacophorid Frogs in Taiwan**
* K.Y. Lue, C.Y. Chen

5:15 666 **Molecular Phylogenetics of a Complex of Cryptic Salamander Species (*Batrachoseps*)**
* E.L. Jockusch

Tuesday, 11th July 1995: Afternoon

Arts 125

2:00 - 5:30

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. Eernisse

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 DNA Sequences**
* S. Romano, S.R. Palumbi

4:45 676 **Testing the Monophyly of the Annelida Using Nuclear (EF1α) 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. Hoeh, 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

2:00 - 5:30

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

3:15 684 • **Estimates of Variance Effective Population Size in Two Epiphitic Orchids *Lepanthes rubripetala* and *L. rupestris***
* R.L. Tremblay

3:30 Break

Tuesday, 11th July 1995: Afternoon

4:00 685 **Effects of Genetic Differentiation on Population Dynamics in the Least Killifish, *Heterandria formosa***
* J. Leips

4:15 686 **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

4:30 687 **Does Differential Survivorship in Coral Reef Fish Alter Patterns of Distribution Established during Recruitment?**
* L. Gutierrez

4:45 688 **Life History Variation among Female *Gambusia hubbsi* on Andros, Bahamas**
* J. Downhower, L. Brown, M. Schug, P. Fuerst

5:00 689 **Morphological Stasis and Ecological Divergence in the Evolution of Dolphins**
* F. Cipriano, S.R. Palumbi

5:15 690 **Ovarian Diapause and Post-Diapause Reproduction in *Drosophila melanogaster* Females**
* K.D. Williams, M.B. Sokolowski

Leacock 219

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 *Minulus 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

Tuesday, 11th July 1995: Afternoon

Arts 225

2:00 - 5:30

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 Fragment Lengths**
* L.M. McIntyre, B.S. Weir

2:45 706 **Independent versus Concerted Evolution of a Pupfish HindIII Satellite DNA Sequence**
* D.D. Duvernell, 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 Intraspecic Variation of the Mitochondrial 16S rRNA Gene of the Planktonic Marine Copepod *Acartia* (Crustacea:Copepoda) Evidence of Cryptic Species and Geographic Structure of *A. tonsa***
* 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. Stepien, 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

2:00 - 5:30

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. Krukonis, 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 *Asclepias 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		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 Lycorenid Butterfly *Jalmenus evagorus*** * J.I. Costa, N.E. Pierce
5:15	726	**Do Barnacle Epibionts 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. Kaweclei
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. Bounlutay, 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
4:15	734	**Facultative Egg Size in Response to Resource Quality: an Adaptive Maternal Effect** * 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. Parichy

Tuesday, 11th July 1995: Afternoon / Evening

Macdonald Engineering Building 280

2:00 - 5:30

Session 60 Genetic Population Structure II

Contributed Papers
Chair: George Barrowclough

2:00	739	**Estimates of Long-Distance Gene Flow within a Continuous Population of *Rudbeckia hirta*** * J.S. Heywood
2:15	740	**The Use of RAPDs to Determine Genetic Diversity in *Poikilacanthus macrathus*, a Tropical Wet Forest Shrub, and in *Ammophila brevilingulata*, a Temperate Dunegrass** * S.P. Bush, D.L. Mulcahy
2:30	741	**Allozymes, RAPDs and Quantitative Traits Yield Conflicting Estimates of Population Differentiation, Suggesting Local Adaptation in Pines of the Rocky Mountains** * R. Latta, J. Mitton
2:45	742	**Genetic Differentiation in the Pitcher-Plant Mosquito *Wyeomyia smithii*** * P. Armbruster, W.E. Bradshaw, C.M. Holzapfel
3:00	743	**The Genetic Structure of *Daphnia* Populations along an Ecological Gradient** * C.K. Geedey, A.J. Tessier
3:15	744	**Ecological Genetics of Hybrid *Daphnia*: a Temporal Study on Genetic Variation and Sexual Isolation** * P. Spaak
3:30		Break
4:00	745	**Genetic Variation in the Zebra Mussel (*Dreissena polymorpha*) within the St. Joseph River Drainage** * K.M. Lewis, J.L. Feder, G. Lamberti
4:15	746	**Patterns of Control Region Variation in Mitochondrial DNA of Spotted Owls (Aves: Strigidae)** * G.F. Barrowclough, J.G. Groth, R.J. Gutierrez
4:30	747	**A Genetic Analysis of Putative Host Races in the Common Cuckoo** * H.L. Gibbs, M. Brooke, N. Davies
4:45	748	**Mitochondrial DNA Variation within and between Populations of Red Howler Monkeys (*Alouatta seniculus*)** * T. Pope, W. Potts
5:00	749	**Mitochondrial DNA Sequence Relationships of the Extinct Blue Antelope *Hippotragus leucophaeus*** * T. J. Robinson, A. D. Bastos, K. Halanych, B. Herzig
5:15	750	**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 ≠ King
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: Genertics 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 Threespine Sticklebacks** * D. Schluter

Wednesday, 12th July 1995: Morning

Arts 225

8:30 - 12:00

Session 64 Molecular Systematics: Fungi, Algae and Plants

Contributed Papers
Chair: Lynn Gillespie

8:30 765 **Molecular Phylogenetics of Fungi Cultivated by Neotropical Attine Ants**
* S. Rehneri,

8:45 766 **Molecular Systematics of Ascomycete Fungi - where do Asexual Species Fit?**
* M.L. Berbee

9:00 767 **The Molecular Phylogenetics of Algae Symbiotic with Reef Building Corals**
* T. Wilcox

9:15 768 **Molecular Evidence on the Relationships of Chlorophycean Green Algae and Higher Plants**
* R.M. McCourt, K.G. Karol, C.F. Delwiche

9:30 769 **Phylogenetic Relationships in Gnetales Based on nrDNA Sequence Data**
* L. Gillespie, J. Sweese

9:45 770 **Angiosperm Phylogeny Inferred from 18S rDNA Sequences**
* P.S. Soltis, D.E. Soltis, D.L. Nickrent, L.A. Johnson, R.K. Kuzoff, J.A. Sweere, E.A. Zimmer

10:00 Break

10:30 771 **Levels of Taxonomic Consensus and Character Congruence Among Four Molecular Data Sets in the Triticaceae (Poaceae)**
* R.J. Mason-Gamer, E.A. Kellogg

10:45 772 **Measures of Phylogenetic Congruence in Pontederiaceae**
* S.W. Graham, S.C.H. Barrett

11:00 773 **Evolution of Marine Angiosperms**
* D.H. Les, M. Waycott, M. Cleland

11:15 774 **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

11:30 775 **A Comparison of Molecular and Morphological Approaches to the Phylogeny of *Korthalsella* (Viscaceae)**
* M. Molvray, P.J. Kores

11:45 776 **Systematics of the Vochysiaceae: Origin of an Asymmetrical Flower**
* A. Litt

Redpath Museum Auditorium

8:30 - 12:00

Session 65 Genetic Variability and Metapopulations

Contributed Papers
Chair: Kent Holsinger

8:30 777 **Population Dynamics and the Maintenance of Diversity in Fluctuating Environments**
* D. Babai, S. Ellner

8:45 778 **The Maintenance of Genetic Variation in Subdivided Populations**
* M. Whitlock

9:00 779 **The Genetic Structure of Source-Sink Metapopulations**
* O. Gaggiotti

9:15 780 **Inferring Migration Structures From Nucleotide Sequence Data: A Comparison of F_{st} Measures**
* K. Holsinger

9:30 781 **Genetic Diversity in Endemic Plant Species of the Athabasca Sand Dunes**
* B.G. Purdy, R.J. Bayer

9:45 782 **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. Purdue, 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. Schluter
8:45	790	**The Cellular Basis of Body Size Evolution in Worms** * A. Leroi, S. Emmons
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 *Caledia captiva*** 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. Pourlak
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 Larval Gastropod 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. Olsson, J. Hanken
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

8:30 - 12:00

Session 67 Cytonuclear Interaction and Gene Evolution

Contributed Papers
Chair: Bruce Turner

8:30 801 **Hybridization and Cytonuclear Disequilibrium in Seastars (*Lepasterias*)**
* D. Foltz, A. Hrincevich, E. Campagnaro, A. Himel

8:45 802 **Cytonuclear Disequilibria under Tetrasomic Inheritance**
* R.D. Overath, M.A. Asmussen

9:00 803 **Selection Effects on a Cytonuclear System**
* C. Babcock, M. Asmussen

9:15 804 **Mating Systems, Bottlenecks and Genetic Polymorphism in Hermaphrodites**
* P. Jarne

9:30 805 **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

9:45 806 **Genetic Relatedness and Population Viscosity in Multiple-Queen *Formica* Ants**
* M. Chapuisat

10:00 Break

10:30 807 **Survival Probabilities for Mutant Alleles in Tetraploids and Two-Locus Allele Combinations in Diploids**
* E. Pollak

10:45 808 **Contrasting Patterns of Replacement and Silent Polymorphism and Differentiation at Esterase-6 in Worldwide Populations of *Drosophila melanogaster***
* V. Bauer, D. Begün, C. Aquadro

11:00 809 **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

11:15 810 **Unequal Rates of Adaptive and Deleterious Change in the *D. melanogaster-simulans* Lineages**
* W. Eanes

11:30 811 **Molecular Population Genetics of a Pseudogene in *Drosophila melanogaster***
* S.W. Schaeffer, J.K. Pritchard

11:45 812 **Genetic Exchange and Sequence Divergence Among Ecological Populations of Plasmids**
F. Cohan, * I. Mitrica

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8:30 - 12:00

Session 68 Molecular Population Genetics: Models and Mutations

Contributed Papers
Chair: Ron Woodruff

8:30 813 **Power of Estimation of Population Parameters from Coalescent Trees of Genes: Do we Want More Sites, Samples, or Loci?**
* J. Felsenstein more loci;

8:45 814 **The Coalescent in the Presence of Selection**
* R.B. Campbell

9:00 815 **Estimating Pollen and Seed Migration From Joint Nuclear-Mitochondrial-Chloroplast Data**
* M.E. Orive, M. Asmussen

9:15 816 **Interactions of Genetics and Population Dynamics in an Age-Structured Population Model**
* J. Kumm, D. Promislow

9:30 817 **Estimating Long-Term Mating Systems from DNA Sequences**
* B. Milligan

9:45 818 **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** * R.J. Baker, A.J. Wright, M.J. Hamilton, L.E. Wiggins, R.A. Van Den Bussche, M.H. Smith, R.K. Chesser, M.D.
Lomakin		
11:15	822	**Rapid Evolution due to the Persistance 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 *Montastraea 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 *Chamaelirium 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)** S.C.H. Barrett, * A.L. Case, G.B. Peters
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

8:30 - 12:00

Session 70 Molecular Evolution: Small-Scale Variation and Phylogeny

Contributed Papers
Chair: Margaret F. Smith

8:30	836	**Phylogenetic Inferentuces From MHC Sequence Data; Knowing the Molecule** * R.E. Hickson, R.L. Cann
8:45	837	**Genome Evolution in *Poeciliopsis*** * A.S. Peek, R.C. Vrijenhoek
9:00	838	**Differential Expression of Androgen-Induced 3-α- 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 virilis* 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**

Author Index

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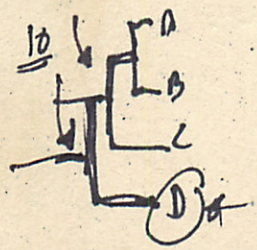
1 error/replication fork

all DNA processes
- replication
- recombination
- transcription
- transposition
- repair
- degradation
- topoisomerization



Kleckner

100 x

why constant mutation rate/genome?
① selection
②

$$\frac{\text{rate}}{\text{nucl}} \cdot \boxed{\frac{\text{nucl}}{\text{genome}}} = K = \frac{\text{rate}}{\text{genome}}$$

if nucleotide/genome ≠ anything else then this might drive process

so what is nucl/genome correlated with
- speed?
- # of forks?
- genes