

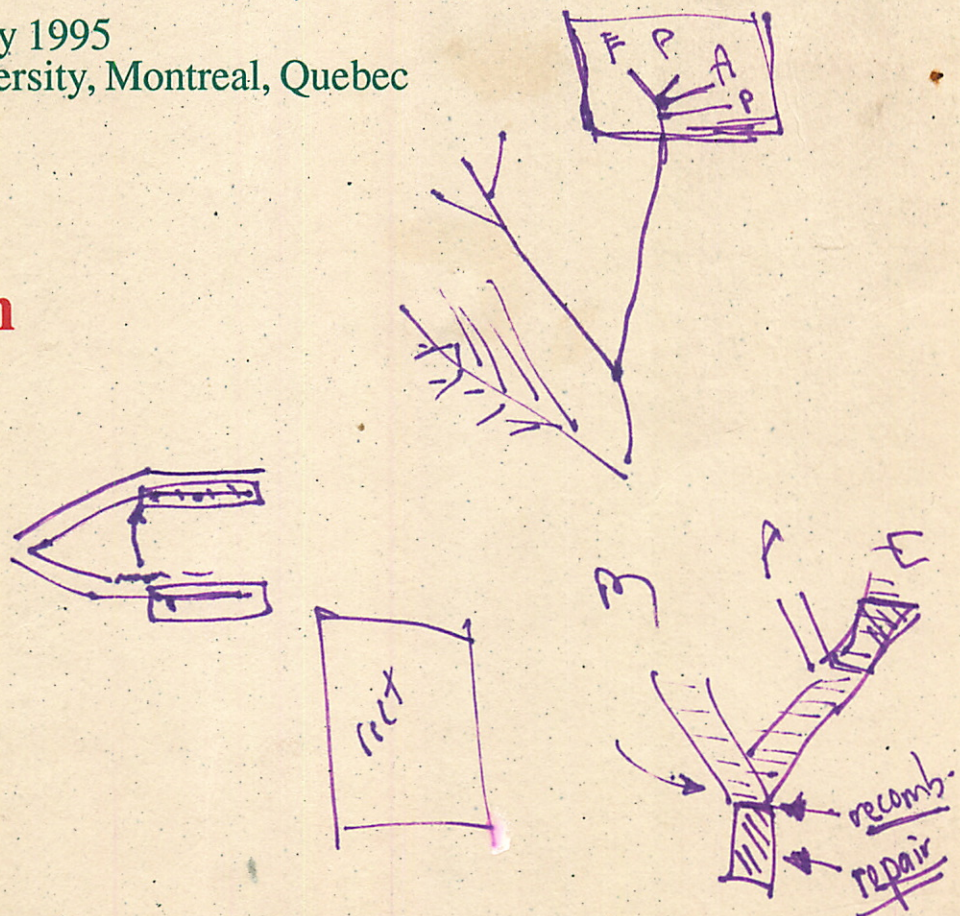
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Society of Systematic Biologists (SSB)
Society for the Study of Evolution (SSE)
American Society of Naturalists (ASN)
Numerical Taxonomy Group (NT)

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

Program



LOCAL EATING SPOTS and TRANSPORTATION

Local Transportation

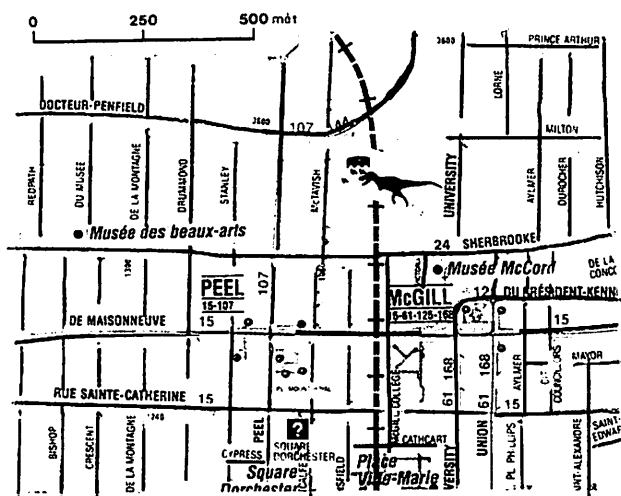
The Metro (Montreal's subway system) can be reached from campus by going either to the Peel Street Station (Peel and de Maisonneuve) or the McGill Street Station (University and de Maisonneuve). Major buses routes run east-west on Pine, Sherbrooke, de Maisonneuve, and St. Catherine, and north-south on 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'Île 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
Shoppes'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 Pavillon de l'Atlantique 1188 Sherbrooke (Maison Alcan). \$ 40 tables

Bars

Most bars within 20 min of conference accommodations 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).

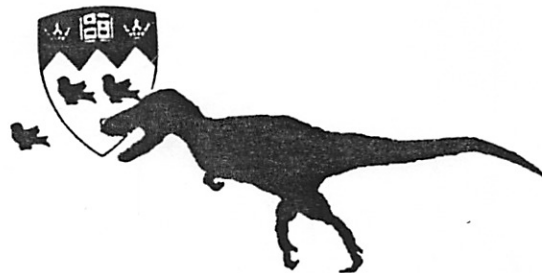
On St.-Laurent and a couple of adjacent streets, about 20 min to the east of McGill, is another concentration of night spots, including many of the dance bars and places with live music. Some of the better-known are:

Woodstock 3781 St-Laurent 982-0951. Rock, underground 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. hangout; cheap beer and food.
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
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.

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



**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.

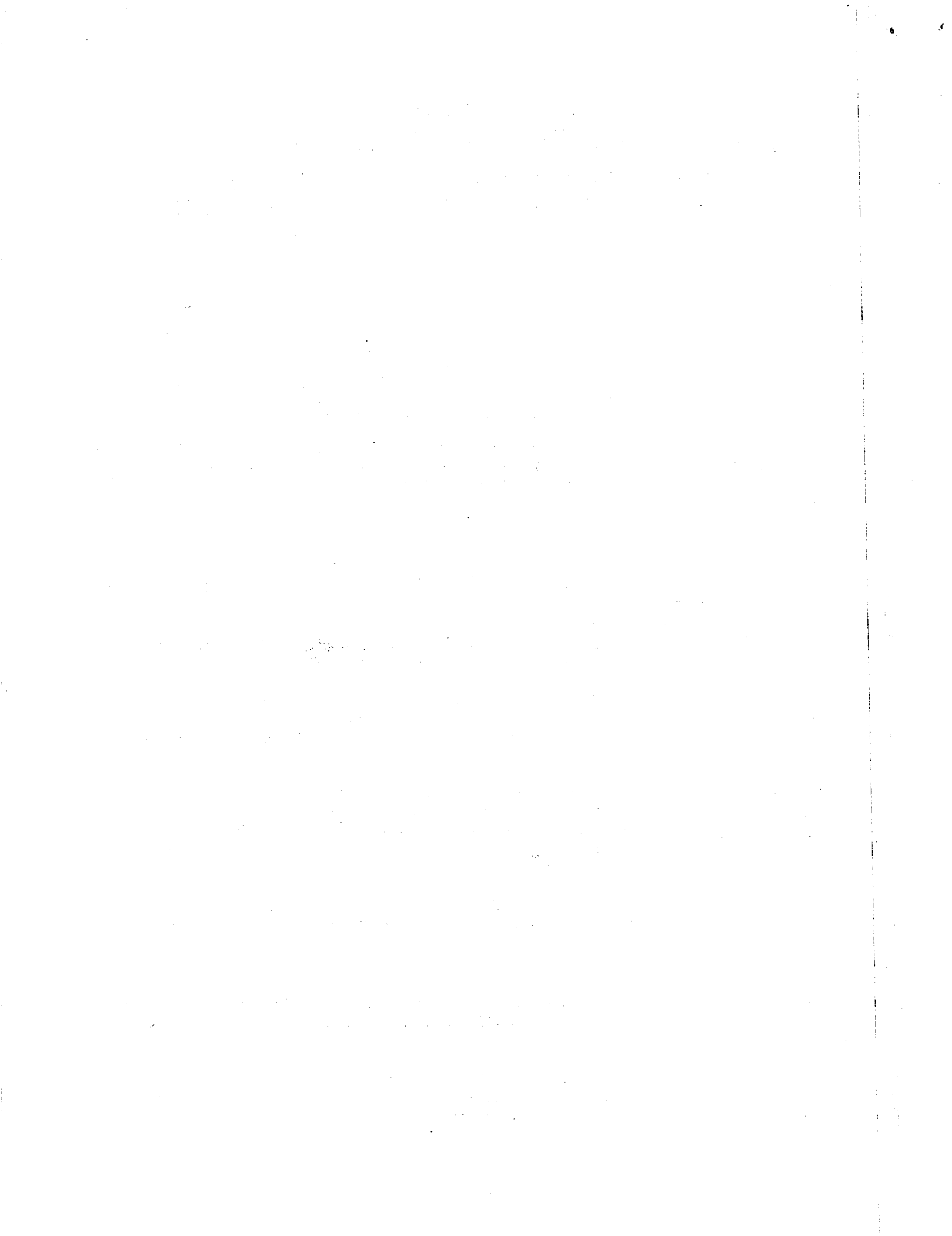
The Montreal International Jazz Festival runs from June 29 to July 9 and is one of the five largest jazz festivals in the world. More than 350 shows are presented on indoor and outdoor stages. The Festival Bell Just for Laughs is held each year during the last week of July and is the world's largest 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. McPeck "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@sbbiium.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	Telephone:	(514) 398-3770
Conference Office	Fax:	(514) 398-4854
McGill University	Email:	EVOL@550SHERB.LAN.MCGILL.CA
550 Sherbrooke Street West		
West Tower, Suite 490		
Montreal, Quebec, Canada H3A 1B9		

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:

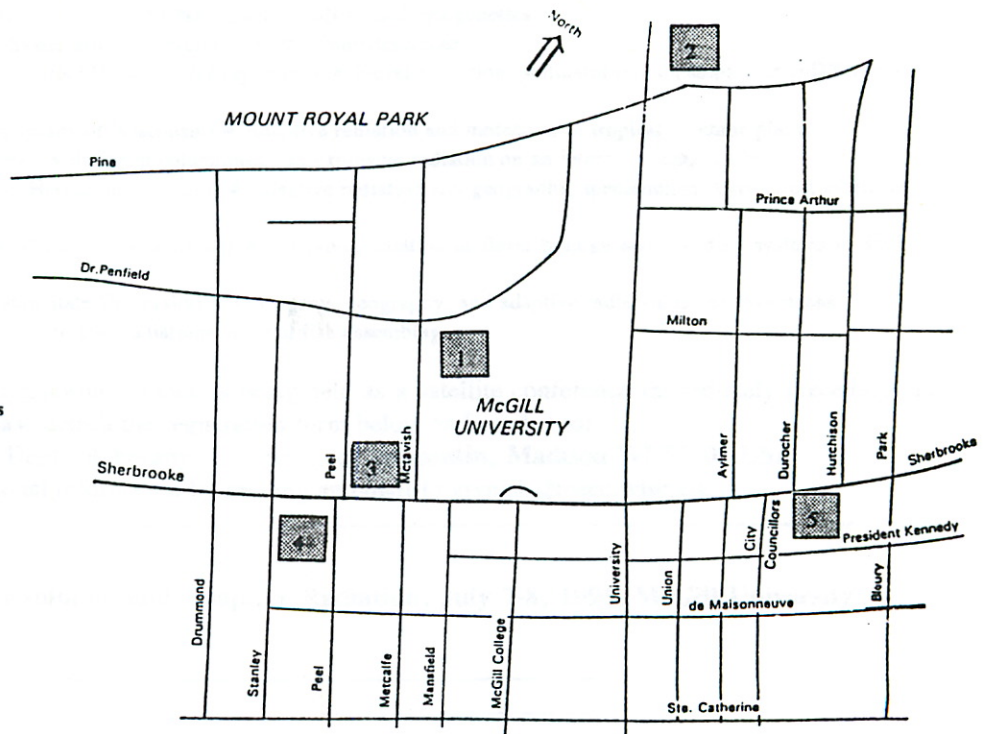
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|--|--|
| 1. Evolutionary theory | 12. Community ecology |
| 2. Adaptation and plasticity | 13. Population ecology |
| 3. Experimental evolution | 14. Population genetics |
| 4. Life histories and development | 15. Quantitative genetics |
| 5. Sexual selection | 16. Molecular systematics |
| 6. Hybridization and sexual isolation | 17. Biogeography |
| 7. Speciation and cladogenesis | 18. Phylogeny reconstruction |
| 8. Geographic variation and hybrid zones | 19. Comparative biology |
| 9. Coevolution | 20. Paleontology and macroevolution |
| 10. Molecular evolution | 21. Numerical Taxonomy |
| 11. Ecological genetics | 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
field*



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

Committees	4
Exhibits	4
General Information	5
Session Schedule	6
Social Activities	8
McGill Campus Map	8

Session Listing

Sunday, 9th July: Morning	10
Sunday, 9th July: Afternoon	16
Sunday, 9th July: Evening	22
Monday, 10th July: Morning	26
Monday, 10th July: Afternoon	31
Monday, 10th July: Evening	37
Tuesday, 11th July: Morning	41
Tuesday, 11th July: Afternoon	47
Tuesday, 11th July: Evening	52
Wednesday, 12th July: Morning	53

Author Index	59
Conference Addresses	69

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

Wednesday, 12th 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

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

12:00 - 2:00

Lunch

End of formal proceedings

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

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

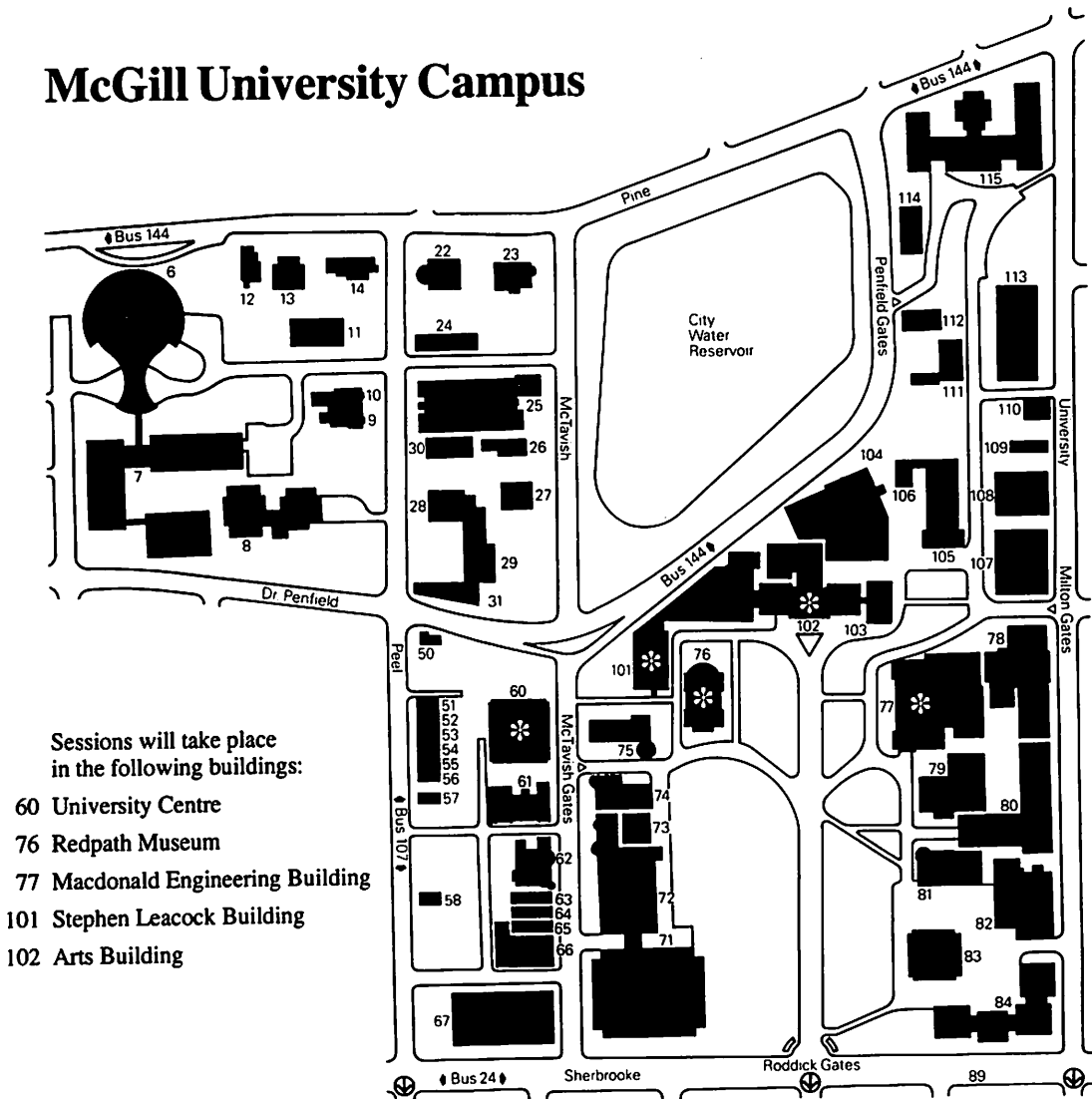
The conference banquet will take place at Bishop Mountain Hall, 3935 University Street (at the very top of the hill), Tuesday, July 11, 6:00 to 8:30 pm.

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



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
- Arts 125
- 8:30 - 12:00 **Session 4 Comparative Analysis of Adaptation**
Contributed Papers
Chair: Jonathan Losos
- 8:30 18 **The Witch's Nose is a Carrot: A Review of Objective Criteria for Invoking Character Displacement, and an Evolutionary Example Using Phylogenetic Autocorrelation**
* J. 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 Crocodylians**
* 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. Mojonner
- 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

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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

Arts 255

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

Arts 125

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. Streebman

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: Lygaeidae) Which Occur in Western Canada
* D. Mulyk
- 4:30 149 ♦ Elongation Factor 1- α DNA Sequences Provide New Evidence on Relationships among Subfamilies of Noctuid Moths
* A. Mitchell, J.C. Regier, C. Mitter
- 4:45 150 Molecular Systematics of Nymphalid Butterflies Based on Cladistic Analysis of Mitochondrial COII and *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* (Lepidoptera: Pieridae) Hybrid Zone at Pont de Nant, Switzerland: Dispersal and Selection Dynamics**
* A. Porter, P. Benninger, R. Wenger, H. Geiger, A. Scholl
- 4:15 160 **Oviposition Preference for Soil Type in and around a Field Cricket Hybrid Zone**
* C. Ross
- 4:30 161 **Nature of Selection that Stabilizes the Big Sagebrush Hybrid Zone in Utah**
* H. Wang, D.C. Freeman, E. Durant McArthur, J.H. Graham
- 4:45 162 **Inferring Mating System and Gene Flow in a Fire Ant Hybrid Zone: An Application of Cytonuclear Theory and Data in a Haplodiploid Organism**
* M. Goodisman, D. Shoemaker, M. Asmussen
- 5:00 163 **Factors Controlling Hybrid Zone Structure in Louisiana Irises: Reciprocal Transplant Experiments**
* S.K. Emms, M.L. Arnold

Macdonald Engineering Building 497

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. Kandi
- 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 Anthelmintic Resistance Alter the Life History Traits of a Parasitic Nematode?**
* A. Chehresa, M.E. Scott, R.N. Beech
- 4:15 183 **Costs of Defense: Artificial Selection for Foliar Glucosinolate Content in *Brassica rapa***
* K.A. Stowe, R.J. Marquis
- 4:30 184 **mRNA Abundances in *Drosophila melanogaster* Selected for Postponed Senescence**
* H. Brar, M. Rose, J. Tower
- 4:45 185 **Evolution of Cyto-Nuclear Genotypes in Experimental Populations of *Drosophila melanogaster***
* M. Kiparsky, D. Rand
- 5:00 186 **Sexual Size Dimorphism as a Correlated Response to Selection on Body Size: A Test of Quantitative Genetic 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. Hoch
- 3:00 192 **Accelerated Rates of Molecular Evolution in Bivalves**
* D. Stewart, R. Hoch, E. Zouros
- 3:15 193 **Expression of a Conserved Body-Patterning Gene in Radially Symmetrical Echinoderms**
* G. Wray, C. Lowe, D. Jauiés
- 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 Resistance 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 floccosa***
* K. Dixon, R. Lesma, J. Park, T. Craig
- 232 **Distinguishing Chaos From Noise in Nematode Population Dynamics**
* P.C. Phillips
- 233 **Frequency-Dependent Selection in Plants: an Experimental Approach**
* R. Castillo, C.A. Dominiguez
- 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. Brunfeldt, 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. Camacho
- 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

Leacock 26

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

Macdonald Engineering Building 476

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
- Leacock 219
- 8:30 - 12:00 **Session 25 Quantitative Genetics**
Contributed Papers
Chair: Anthony Zera
- 8:30 309 **Dominance Variance: Associations with Selection and Fitness**
* P. Cmokrak, 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

Monday, 10th July 1995: Morning

Macdonald Engineering Building 280

8:30 - 12:00

Session 26 Species and Speciation

Contributed Papers
Chair: Stephen Palumbi

- 8:30 320 **Retrospection and Prospecion 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

Macdonald Engineering Building 497

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

Monday, 10th July 1995: Morning

Arts 125

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

Macdonald Engineering Building 279

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

Redpath Museum Auditorium

8:30 - 12:00

Session 30 Evolution of Cichlids and Other Fishes

Contributed Papers

Chair: Thomas Kocher

- 8:30 362 **Evolution of NDZ in East African Cichlids: A Detailed Look At Molecular Divergence**
* T.D. Kocher
- 8:45 363 **Phylogeny of the Family Cichlidae Based on Several Complete Mitochondrial Gene Sequences**
* A. Meyer, P. Ritchie, G. Oth, T. Titus
- 9:00 364 **Paleogeographic Evolution of Rift Lakes: Placing Constraints on Phylogenetic Hypotheses of Endemic Radiations**
* A. Cohen
- 9:15 365 **Applications of Microsatellite Variation to the Evolutionary Biology of Malawi Cichlid Fishes**
* I. Kornfield, A. Parker
- 9:30 366 **Microsatellite Markers for Mapping the Cichlid Genome**
* W. Lee, T.D. Kocher
- 9:45 367 **Mating Systems, Parental Care and Diversification in a Neotropical Cichlid, *Gymnogeophagus***
* P. Wimberger, R. Reis
- 10:00 Break
- 10:30 368 **Diet-Induced Phenotypic Plasticity in Old World Cichlids**
* J.R. Stauffer Jr.
- 10:45 369 **Aspects of Sympatric Speciation in Cichlid Fishes from Three Small Cameroonian Lakes**
* U. Schliewen, D. Tautz
- 11:00 370 **Genetic Differentiation Between Inshore and Offshore Atlantic Cod (*Gadus morhua*) in the Northwest Atlantic: Microsatellite DNA Variation and Antifreeze Protein Level**
* D. 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

Arts 125

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

Leacock 26

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. McPeck, J. Brown
- 4:30 379 **The Phylogenetics of Specialization: Inferences From Insects**
* B. Wiegmann
- 5:00 380 **Concluding Remarks**
* M. Berenbaum

Macdonald Engineering Building 279

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
- 2:20 383 **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

Macdonald Engineering Building 476

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 Ribosomal RNA Genes and Implications for Sequence Alignment**
* A. Vogler
- 3:30 Break
- 4:00 399 **Vicariance or Dispersal? Using Genetic Data to Explain the Subarctic/Alpine Distribution of *Lasioglossum boreale* (Halictidae Hymenoptera)**
* J.S. Taylor, L. Packer
- 4:15 400 **Phylogenetic Study of Apocrita (Hymenoptera) with Emphasis on Wing Venation**
* A. Roy, M. Sharkey
- 4:30 401 **Behaviour, Molecules, and Morphology Combined for Phylogenetic Study of Social Wasps**
* J. Wenzel
- 4:45 402 **Genetic Evolution among Species of the Genus *Naso* (Acanthuridae: Nasinae) from Guam**
* C.L. Dayton
- 5:00 403 **Molecular Evolutionary Dynamics in Pierid Butterflies**
* D.D. Pollock
- 5:15 404 **The Historical Biogeography of West Indian Butterflies**
* N. Davies

Monday, 10th July 1995: Afternoon

Arts 255

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

Macdonald Engineering Building 280

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
no genetic evidence for difference - if phenotype doesn't Δ w/ adaptation does not mean genetic
- 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
within ca between
- 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 I (mtDNA) Sequence in a Marine Copepod: Geographic Structure and Evidence for Functional Significance**
* R.S. Burton
- 5:00 439 **Population Structure of the Western Black-Legged Tick, *Ixodes pacificus* (Acari:Ixodidae)**
* D. Kain
- 5:15 440 **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

Leacock 219

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 tetraophthalmus***
* 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

- 8:00 - 9:00 pm
- Leacock 132
- Session 41 SSB Presidential Address**
- Plenary
Salvador Dali, Flying DNA, and the Parametric Bootstrap
D.M. Hillis
- 9:00 - 11:00 pm
- Shatner Ballroom
- 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. Alaيدا-Toledo, S.A. Toledo Filho
- 480 **Microsatellites in the African Cichlid *Astatoreochromis alluaudi*: Cloning Characterization and Potential Application**
* L. Wu, M. Chandler, L. Kaufman, P.A. Fuerst
- 481 **Genetic Variation in Shortleaf Pine (*Pinus echinata* Mill.)**
* M.A. Edwards, J.L. Hamrick
- 482 **Comparative Study of the Chorionic Ultrastructure in the *dunni* Subgroup and Related Groups in the Genus *Drosophila***
* L.J. Resto

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. Viciomini
- 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. Bureson
- 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. Gommer
- 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-1 α 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: Demospongiae) 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 Noctuids Based on a New Nuclear Gene: Dopa Decarboxylase (DDC)**
Q. Fang, * J.C. Regier, C. Mitter, R. Poole
- 525 **Molecular Phylogenetic Relationships among Mosquitoes of the Genus *Anopheles***
* B. Garcia, K. Mathiopoulos, A. Caccone, J. Powell
- 526 **Phylogeny of Inbred Mice: Are Microsatellites Phylogenetically Useful Characters?**
* P. Kennedy, E. Routman
- 527 **Linking Molecular Sequence Data to Specimen and Collection Data: The Development and Implementation of the "Sequences, Sources, Taxa" (SST) Database**
* C.J. Bult, J.A. Blake, A.R. Kerlavage, C.A. Fields
- 528 **Phylogenetic Relationships among Chrysomelidae Taxa Inferred from Mitochondrial DNA Sequence Data**
* T.H. Hsiao
- 529 **Phylogeography of Alaskan Brown Bears**
* G.F. Shields, S.L. Talbot
- 530 **The Evolution of Allorecognition in Ascidians: A Molecular Phylogeny**
* C.S. Cohen
- 531 **Origins of Unique Parapatric Lake-Stream Species Pairs of Threespine Stickleback (*Gasterosteus aculeatus*) as Evidenced by Molecular Data**
* C. Thompson, J. D. McPhail

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 Distribution**
* 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. Patamello, 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

Arts 125

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 Homoplasmy 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

Arts 225

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. Nuaudin, 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 α 1-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 (EF1 α) 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 Epiphytic 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 Intraspecific Variation of the Mitochondrial 16S rRNA Gene of the Planktonic Marine Copepod *Acartia* (Crustacea:Copepoda) Evidence of Cryptic Species and Geographic Structure of *A. 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: Genetics of Adaptation during the First Few Hundred Generations of Soapberry Bug Pioneers**
* S. Carroll, H. Dingle
- 11:00 763 **Environmental Shifts, Rapid Adaptation, and High Extinction Rates in a Set of Checkerspot Butterfly Populations**
* C. Parmesan, M. Singer
- 11:30 764 **Ecology of Rapid Speciation and Divergence in the 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. Rehner,
- 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
- 8:30 - 12:00
Macdonald Engineering Building 280
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. Poulak
- 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. Hrinkevich, 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. Begun, 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

Macdonald Engineering Building 497

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 Persistence of Escaped Transgenes in Wild Populations of Sunflower and Squash**
* A.A. Snow, L.H. Rieseberg

11:30

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

11:45

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

Macdonald Engineering Building 279

8:30 - 12:00

Session 69 Sex Ratios and Sex Allocation

Contributed Papers

Chair: Willem Roosenburg

8:30

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

8:45

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

9:00

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

9:15

- 828 **Sex Allocation and Life History Response to an Energy Gradient for the Reef Building Coral *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 Labiality, 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 Inferences 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. Hrnicevich, 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

- Abbot, P., 576
Simon Fraser University, Canada
- Abbott, R., 86
University of St. Andrews, U.K.
- Abele, L.G., 143
Florida State University, U.S.A.
- Abouheif, E., 25
Concordia University, Canada
- Abraham, J.N., 458
University of Southwestern Louisiana, U.S.A.
- Abrams, P., 570
University of Minnesota, U.S.A.
- Ackerly, D., 415
Harvard University, U.S.A.
- Adachi, J., 358
University of Tokyo, Tokyo
- Adamczyk, J., 76
Louisiana State University, U.S.A.
- Adams, D.C., 486
State University of New York at Stony Brook, U.S.A.
- Aeby, G.S., 270
University of Hawaii, U.S.A.
- Akashi, H., 212
University of Chicago, U.S.A.
- Alacida-Toledo, L.F., 479
Instituto De Biociencias, Brasil
- Aldous, A., 126
Cornell University, U.S.A.
- Alexander, H.M., 226
University of Kansas, U.S.A.
- Alroy, J., 449
University of Arizona, U.S.A.
- Alvarez, B., 518
Australian National University, Australia
- Alvarez-Buylla, E., 428, 818
Universidad Nationale Autonoma de Mexico, Mexico
- Alves-Gomes, J., 197
Scripps Institution of Oceanography, U.S.A.
- Ammerman, L.K., 300
University of Texas, U.S.A.
- Anderson, B.D., 28
University of California at Berkeley, U.S.A.
- Anderson, C., 671
Goethe University, Germany
- Antolin, M., 703
Colorado State University, U.S.A.
- Aquadro, C.F., 466, 634, 704, 808, 809
Cornell University, U.S.A.
- Arctander, P., 343, 521
University of Copenhagen, Denmark
- Arduino, P., 839
University of Rome, Italy
- Arendt, J., 624
SUNY Binghamton, U.S.A.
- Arevalo, E., 59, 58
Rice University, U.S.A.
- Armbruster, P., 742
University of Oregon, U.S.A.
- Armstrong, P., 16
University of Hawaii, U.S.A.
- Arndt, A., 597
Simon Fraser University, Canada
- Arnold, J., 669
University of Georgia, U.S.A.
- Arnold, M.L., 84, 87, 163
University of Georgia, U.S.A.
- Arnqvist, G., 103
University of New Mexico, U.S.A.
- Asay, K.H., 547
Utah State University at Logan, U.S.A.
- Ashley, M.V., 348, 361
University of Illinois at Chicago U.S.A.
- Asmussen, M.A., 162, 802, 803, 815
The University of Georgia, U.S.A.
- Athanasίου, A., 498
York University, Canada
- Atkinson, L., 215
University of Rochester, U.S.A.
- Austin, C., 21, 299
University of Texas at Austin, U.S.A.
- Aviles, L., 682
University of Arizona, U.S.A.
- Avise, J.C., 424, 435, 669
University of Georgia, U.S.A.
- Awadalla, P., 541
University of Toronto, Canada
- Ayala, F.J., 121
Harvard University, U.S.A.
- Babai, D., 777
North Carolina State University, U.S.A.
- Babcock, C., 803
University of Georgia, U.S.A.
- Babcock, S.K., 623
James Madison University, U.S.A.
- Baer, C., 592
Florida State University, U.S.A.
- Bailey, R., 492
University of Guam, U.S.A.
- Baker, A.J., 307, 308
Royal Ontario Museum, Canada
- Baker, A.M., 463
University of Toronto, Canada
- Baker, R., 396
American Museum of Natural History, U.S.A.
- Baker, R.J., 821
Texas Technical University, U.S.A.
- Baldauf, S.L., 189
Dalhousie University, Canada
- Balis, J., 120
West Virginia University, U.S.A.
- Ballabeni, P., 241
Universitat Zurich, Switzerland
- Bargelloni, L., 53, 559
University of Padova, Italy
- Barnes, D.M., 774
Northern Illinois University, U.S.A.
- Barnes, P.T., 279
Connecticut College, U.S.A.
- Barnett, M., 282
University of Idaho, U.S.A.
- Barrett, S.C.H., 656, 772, 833
University of Toronto, Canada
- Barrowclough, G.F., 746
American Museum of Natural History, U.S.A.
- Bartl, L.M., 279
Saint Louis University, U.S.A.
- Basten, C.J., 276
North Carolina State University, U.S.A.
- Bastos, A. D., 749
University of Pretoria, South Africa
- Batra, P., 453, 702
Kellogg Biological Station, U.S.A.
- Bauer, S., 85
State University of New York at Cortland, U.S.A.
- Bauer, V., 808
Cornell University, U.S.A.
- Baum, D.A., 320
Harvard University, U.S.A.
- Baumann, H., 638
Roswell Park Cancer Institute, U.S.A.
- Bautista, J.M., 847
Universidad Complutense De Madrid, Spain
- Baverstock, P.R., 347
Southern Cross University, Australia
- Bayer, R.J., 781
University of Alberta
- Baylac, M., 335
Museum National d' Histoire Naturelle, France
- Bazzaz, F.A., 121
Harvard University, U.S.A.
- Beaton, M.J., 409
University of British Columbia, Canada
- Beattie, A.J., 461
Macquarie University, Australia
- Beavis, W., 756
Pioneer Hi-Bred International, Inc., U.S.A.
- Beckenbach, A., 845
Simon Fraser University, Canada
- Beckenbach, K., 845
Dalhousie University, Canada
- Beech, R.N., 182
McGill University, Canada
- Beerli, P., 430
University of Washington, U.S.A.
- Begun, D.J., 101, 704, 808
University of California at Davis, U.S.A.
- Bell, G., 90, 630
McGill University, Canada
- Benninger, P., 159
University of Berne, Switzerland
- Bennington, C.C., 171, 614, 225
Princeton University, U.S.A.
- Berbee, M.L., 766
University of British Columbia, Canada
- Berenbaum, M., 375, 380
University of Illinois, U.S.A.
- Berger, F.G., 261, 551, 638, 838
University of South Carolina, U.S.A.
- Bermingham, E., 442, 441, 572
Smithsonian Tropical Research Institute, U.S.A.
- Bernardo, J., 18
University of Texas at Austin, U.S.A.
- Bernatchez, L., 422, 686
Université Laval, Canada
- Berrigan, D., 32
University of Washington, U.S.A.
- Bert, T.M., 154, 373, 726, 558
Florida Marine Research Institute, U.S.A.
- Berteaux, D., 273
University of Sherbrooke, Canada
- Berube, M., 343, 787
McGill University, Canada
- Bever, J., 235
Duke University, U.S.A.
- Bharathan, G., 194
University of California at Davis, U.S.A.
- Bickford, D., 566
University of Miami, U.S.A.
- Biermann, C.H., 81
State University of New York at Stony Brook, U.S.A.
- Biggs, A., 493
University of Guam, U.S.A.
- Birt, T.P., 308
Queen's University, Canada
- Bishop, J.G., 598
University of Washington, U.S.A.
- Bittar, G., 499
Université de Geneve, Switzerland
- Black, M.B., 142, 677
Rutgers University, U.S.A.
- Black, W.C., 703
Colorado State University, U.S.A.
- Blake, J.A., 527, 667
The Institute for Genomic Research, U.S.A.
- Blanchard, J.L., 339
University of Georgia, U.S.A.
- Blier, P., 422
Université du Québec à Rimouski, Canada
- Boag, P.T., 504
Queen's University, Canada
- Bodaly, R.A., 686
Department of Fisheries and Oceans, Canada
- Boecklen, W.J., 88
New Mexico State University, U.S.A.
- Bohonak, A.J., 429
Cornell University, U.S.A.
- Bond, J.E., 146
Virginia Polytechnic Institute and State University, U.S.A.
- Bookstein, F.L., 286, 290
University of Michigan, U.S.A.
- Boon, G.C., 522
The Ohio State University, U.S.A.
- Borash, D.J., 731, 732
University of California at Irvine, U.S.A.
- Borja, L., 57
University of Guam, U.S.A.
- Borowsky, R., 668
New York University, U.S.A.
- Bossart, J.L., 722
University of Maryland, U.S.A.
- Boulding, E., 760
University of Guelph, Canada
- Bounlutay, N., 731
University of California at Irvine, U.S.A.
- Bousquet, J., 195, 509
Université Laval, Canada
- Bowers, N.J., 472
Pennsylvania University, U.S.A.
- Bradshaw, W.E., 140, 742
University of Oregon, U.S.A.
- Brar, H., 184
University of Southern California, U.S.A.
- Brauer, M.J., 346
University of Texas at Austin U.S.A.
- Braun, C.E., 213
Colorado Division of Wildlife, U.S.A.
- Breden, F., 556
Simon Fraser University, Canada
- Breitmeyer, C., 788
Arizona State University, U.S.A.
- Briscoe, D., 678
Macquarie University, Australia
- Brodie III, E.D., 567
University of Kentucky, U.S.A.
- Brooke, M., 747
Cambridge University,
- Brookfield, J.F.Y., 636
University of Nottingham, U.K.
- Brooks, A., 244
University of Colorado, U.S.A.
- Brooks, D.R., 4
University of Toronto, Canada
- Broughton, R., 587
Arizona State University

- Brower, A., 150
American Museum of Natural History, U.S.A.
- Brown, A.F., 660
Brown University, U.S.A.
- Brown, J., 474, 496, 378
Bucknell University, U.S.A.
- Brown, J.R.T., 188, 845
Dalhousie University, Canada
- Brown, L.P., 432, 688
George Mason University, U.S.A.
- Broyles, S.B., 85
State University of New York at Cortland, U.S.A.
- Brumbaugh, D.R., 736
University of Washington, U.S.A.
- Brunsfeld, S.J., 265
University of Idaho, U.S.A.
- Bryant, M., 730
University of California, U.S.A.
- Buchanan, F., 474
University of Saskatchewan, Canada
- Bucklin, A., 709
University of New Hampshire, U.S.A.
- Bull, J.J., 108, 176, 177
University of Texas at Austin, U.S.A.
- Bullini, L., 82, 839
University of Rome, Italy
- Bult, C.J., 527, 667
The Institute for Genomic Research, U.S.A.
- Burd, M., 136
University of Wisconsin, U.S.A.
- Burke, J.M., 84
University of Georgia, U.S.A.
- Burns, K.J., 302
University of California at Berkeley, U.S.A.
- Burreson, E.M., 501
Virginia Institute of Marine Science, U.S.A.
- Burt, A., 47, 95
Imperial College, U.K.
- Burton, R.S., 439, 595
Scripps Institution of Oceanography, U.S.A.
- Busby, S., 733
South Carolina Governor's School for Science and Math, U.S.A.
- Bush, G.L., 578
Michigan State University, U.S.A.
- Bush, S.P., 740
University of Massachusetts, U.S.A.
- Bustamante, C., 533
Harvard University, U.S.A.
- Butler, M.A., 19
Washington University, U.S.A.
- Byers, D., 316
University of Minnesota, U.S.A.
- Byington, T.S., 225
Nash Community College, U.S.A.
- Byun, A., 141
University of Victoria, Canada
- Cabrero, J., 271, 272
Universidad de Granada, Spain
- Caccone, A., 525
Yale University, U.S.A.
- Callahan, H., 122
University of Wisconsin, U.S.A.
- Camacho, J.P.M., 272
Universidad de Granada, Spain
- Campagnaro, E., 801
Louisiana State University, U.S.A.
- Campbell, D.R., 392, 460
University of California at Irvine, U.S.A.
- Campbell, J.A., 300
University of Texas, U.S.A.
- Campbell, P.M., 645
Australian National University and CSIRO, Australia
- Campbell, R.B., 814
University of Northern Iowa, U.S.A.
- Cann, R.L., 707, 836
University of Hawaii, U.S.A.
- Cantrell, M.A., 628
University of Idaho, U.S.A.
- Carew, E.A., 394
Stanford University, U.S.A.
- Carey, J.R., 616
University of California, U.S.A.
- Carnean, D., 576
Simon Fraser University, Canada
- Carney, S.E., 87
University of Georgia, U.S.A.
- Carr, D.E., 693, 694
University of Maryland, U.S.A.
- Carr, S.M., 356
Memorial University, Canada
- Carriere, Y., 24
McGill University, Canada
- Carroll, S., 762
University of California at Davis, U.S.A.
- Carter, D.A., 95
Roche Molecular Systems, U.S.A.
- Carter, P.A., 485
University of Wisconsin at Madison, U.S.A.
- Carvalli Sfoiza, L.L., 199
Stanford University, U.S.A.
- Casavant, N.C., 284
University of Idaho, U.S.A.
- Case, A.L., 229, 833
University of North Carolina, U.S.A.
- Castaneda, A., 471
Universidad Nacional Autonoma de Mexico, Mexico
- Castillo, R., 233
Universidad Nacional Autonoma de Mexico, Mexico
- Castro-Lopez, A., 271, 272
Universidad de Granada, Spain
- Catchpole, R., 246
University of Leeds, U.K.
- Caterino, M.S., 115
University of California at Berkeley, U.S.A.
- Caudill, C., 709
University of New Hampshire, U.S.A.
- Cavalli-Sforza, L., 714
Stanford University, U.S.A.
- Cavender, T., 523
The Ohio State University, U.S.A.
- Chandler, M., 480, 522, 542
New England Aquarium, U.S.A.
- Chang, H. Y., 468
Academia Sinica, Republic of China
- Chang, H.Y., 236, 545
Nation Taiwan University, Republic of China
- Chang, S., 695
Duke University, U.S.A.
- Chao, L., 54, 296
University of Maryland, U.S.A.
- Chapleau, F., 537
University of Ottawa, Canada
- Chapuisat, M., 806
Museum of Zoology, Switzerland
- Charlesworth, B., 201
University of Chicago, U.S.A.
- Charlesworth, D., 201, 477
University of Chicago, U.S.A.
- Chatterton, N.J., 547
Utah State University at Logan, U.S.A.
- Cheeseman, J., 175
University of Illinois, U.S.A.
- Chehresa, A., 182
McGill University, Canada
- Chen, C.Y., 665
National Taiwan Normal University, Taiwan
- Chernoff, B., 154
Field Museum, U.S.A.
- Chesser, R.K., 821
Savannah River Ecology Lab, U.S.A.
- Cheverud, J.M., 351, 754
Washington University, U.S.A.
- Chevillon, C., 593
Université de Montpellier, France
- Chewning, J.J., 711
Tyson Foods Inc., U.S.A.
- Chippindale, A., 179
University of California, U.S.A.
- Chippindale, P.T., 300
University of Texas, U.S.A.
- Cho, S., 510
University of Maryland, U.S.A.
- Chong, D.K., 599
Loma Linda University, U.S.A.
- Cianchi, R., 82, 839
University of Rome, Italy
- Cipriano, F., 689
University of Hawaii, U.S.A.
- Civetta, A., 262
McMaster University, Canada
- Clark, A., 583
Pennsylvania State University, U.S.A.
- Clark, J.B., 625
University of Arizona, U.S.A.
- Clark, R.A., 61
University of New Hampshire, U.S.A.
- Clay, K., 172
Indiana University, U.S.A.
- Clayton, D.H., 567
Oxford University, England
- Clayton, J., 474
Department of Fisheries & Oceans, Canada
- Clegg, M.T., 51, 476, 263
University of California, U.S.A.
- Cleland, M., 773
University of Connecticut, U.S.A.
- Clough, J., 282
Hewlett-Packard, U.S.A.
- Cocilovo, M.I., 279
Rutgers University, U.S.A.
- Cockburn, A., 397
U.S. Department of Agriculture, U.S.A.
- Coddington, J., 145
Smithsonian Institution, U.S.A.
- Coeverden de Groot, P.J., 445
Queens University, Canada
- Cohan, F.M., 717, 812
Wesleyan University, U.S.A.
- Cohen, A., 364
University of Arizona at Tucson, U.S.A.
- Cohen, C.S., 530
Stanford University, U.S.A.
- Cohen, D., 728
Hebrew University, Israel
- Colbourne, J.K., 409
University of Guelph, Canada
- Colby, C., 820
Boston University, U.S.A.
- Cole, K., 260
Yale University, U.S.A.
- Collin, R., 797
University of Washington, U.S.A.
- Collins, J.J., 626
University of New Hampshire, U.S.A.
- Collins, T.M., 652
University of Michigan, U.S.A.
- Colwell, A., 50
University of Colorado, U.S.A.
- Conn, J., 397, 513
University of Vermont, U.S.A.
- Conner, J., 462
University of Illinois at Champaign, U.S.A.
- Cooch, E.G., 759
Simon Fraser University, Canada
- Cook, D., 370
Dalhousie University, Canada
- Cooke, F., 759
Simon Fraser University, Canada
- Cooper, A., 448, 648
National Zoological Park, U.S.A.
- Cooper, J.A., 537
University of Ottawa, Canada
- Costa, J.I., 725
Harvard University, U.S.A.
- Cracraft, J., 374
American Museum of Natural History, U.S.A.
- Craddock, E., 345
State University of New York at Purchase, U.S.A.
- Craig, T., 231
Arizona State University, U.S.A.
- Crandall, K.A., 346, 824
University of Texas at Austin U.S.A.
- Crawford, D.L., 431, 548
University of Chicago, U.S.A.
- Crease, T.J., 658
University of Guelph, Canada
- Crespi, B., 576
Simon Fraser University, Canada
- Crmokrak, P., 309
McGill University, Canada
- Crother, B.I., 560
Southeastern Louisiana University, U.S.A.
- Crump, B.L., 348
University of Illinois at Chicago, U.S.A.
- Cruz-Lopez, H., 373
Florida Game and Freshwater Fish Commission, U.S.A.
- Cuevas Garcia, E., 200
Universidad Nacional Autonoma de Mexico, Mexico
- Cullum, A. J., 62
University of California at Irvine, U.S.A.
- Cunningham, C., 176
Duke University, U.S.A.
- Curland, D.S., 513
University of Vermont, U.S.A.
- Curtsinger, J.W., 618, 619
University of Minnesota, U.S.A.
- D'Amelio, S., 839
University of Rome, Italy
- d'Iorio, P., 228
University of Connecticut, U.S.A.
- Da Silva, J., 90, 275
Laurentian University, Canada
- da Silva, M.N.F., 443
University of California at Berkeley, U.S.A.
- Danoff-Burg, J.A., 411, 513
University of Vermont, U.S.A.
- Darling, D.C., 280
University of Toronto, Canada
- Darlu, P., 502
Université Denis Diderot, France
- Davies, N., 404, 747
University College London, U.K.
- Davis, W.P., 805
Environmental Protection Agency, U.S.A.

- Day, T., 222
Queen's University, Canada
- Dayton, C.L., 402
University of Guam, U.S.A.
- De Jong, G., 123
University of Utrecht, The Netherlands
- de Pamphilis, C.W., 43
Vanderbilt University, U.S.A.
- de Queiroz, A., 413
University of Arizona at Tucson, U.S.A.
- de Queiroz, K., 20, 407
Smithsonian Institution, U.S.A.
- De Vito, E., 82
University of Rome, Italy
- Deagle, B.E., 141
University of Victoria, Canada
- DeBry, R.W., 143
Duke University, U.S.A.
- Deckert, D.J., 181
University of California, U.S.A.
- DeFilippis, V., 538
Wayne State University
- Del Castillo, R.F., 210
CIIDIR IPN Oaxaca, Mexico
- Delph, L.F., 172
Indiana University, U.S.A.
- Delwiche, C.F., 768
Indiana University, U.S.A.
- Deng, H., 94
University of Oregon, U.S.A.
- dePamphilis, C.W., 46
Vanderbilt University, U.S.A.
- DeSalle, R., 150, 395, 396
American Museum of Natural History, U.S.A.
- Desfeux, C., 520
Université Paris-Sud, France
- Di Meo, C., 557
Rutgers University, U.S.A.
- Di Stilio, V.S., 830
University of Massachusetts, U.S.A.
- Diaz, M., 12
University of South Carolina, U.S.A.
- Dickinson, T.A., 334, 374
Royal Ontario Museum, Canada
- Dietrich, H., 535
University of Jena, Germany
- Dietz, A., 671
Goethe University, Germany
- Dightman, D.A., 11
NW Fisheries Science Center, U.S.A.
- Dijkstra, L., 544
National Institute of Water and Atmosphere, New Zealand
- Diluglio, N., 628
University of Idaho, U.S.A.
- DiMichele, L., 483
Texas A&M University, U.S.A.
- Dingle, H., 737, 762
University of California at Davis, U.S.A.
- Ditchfield, A.D., 663
University of California Berkeley, U.S.A.
- Dixon, K., 231
Arizona State University, U.S.A.
- Dixon, P.M., 681
University of Georgia, U.S.A.
- Dodson, J.J., 686
Université Laval, Canada
- Doebley, J., 752
University of Minnesota
- Dohm, M.R., 485
Stanford University, U.S.A.
- Dole, J., 385
Illinois State University at Normal, U.S.A.
- Dominiquez, C.A., 233
Universidad Nacional Autonoma de Mexico, Mexico
- Donoghue, M., 415
Harvard University, U.S.A.
- Doolittle, W.F., 188, 189
Dalhousie University, Canada
- Dorit, R., 260, 259
Yale University, U.S.A.
- Dorn, L., 389
University of Montana, U.S.A.
- Dorward, H., 791
James Madison University, U.S.A.
- Dowling, T., 587
Arizona State University
- Downhower, J.F., 432, 688
Ohio State University, U.S.A.
- Doyle, J.J., 2
Cornell University, U.S.A.
- Drake, J., 291
National Institute of Environmental Health Sciences, U.S.A.
- Drew, D., 516
QDPI, Australia
- Dries, L.A., 453
University of Texas at Austin, U.S.A.
- Driscoll, D., 664
University of Western Australia, Australia
- Drouin, G., 48, 49, 537, 340
University of Ottawa, Canada
- Duda Jr., T.F., 661
University of Hawaii, U.S.A.
- Dudash, M.R., 693, 694
University of Maryland, U.S.A.
- Dudley, S.A., 119, 120
Brown University, U.S.A.
- Dufresne, F., 98
University of Guelph, Canada
- Duncan, P., 679
Northern Illinois University, U.S.A.
- Durant McArthur, E., 161
United States Department of Agriculture Forest Service, U.S.A.
- Durbin, M., 476
University of California at Riverside, U.S.A.
- Durrett, R., 715
Cornell University, U.S.A.
- Dutilleul, P., 126
McGill University, Canada
- Duvernell, D.D., 706
Virginia Polytechnical Institute and State University, U.S.A.
- Dybdahl, M., 568
Indiana University, U.S.A.
- Dykhuisen, D., 93, 550
State University of New York, U.S.A.
- Eadie, J., 281
University of Toronto, Canada
- Eanes, W., 810
State University of New York at Stony Brook, U.S.A.
- Eble, G., 451
The University of Chicago, U.S.A.
- Eckert, C.G., 656
Queen's University, Canada
- Edmands, S., 595
Scripps Institution of Oceanography, U.S.A.
- Edwards, M.A., 89, 481
University of Georgia, U.S.A.
- Eernisse, D., 673
California State University, U.S.A.
- Eisen, J.A., 45
Stanford University, U.S.A.
- Ell, M., 49
University of Ottawa, Canada
- Elle, E., 138
Rutgers University, U.S.A.
- Ellers, O., 21
University of California at Davis, U.S.A.
- Ellner, S., 257, 777
North Carolina State University, U.S.A.
- Ely, b., 12
University of South Carolina, U.S.A.
- Emerson, S., 277
University of Utah, U.S.A.
- Emmons, S., 790
Albert Einstein College of Medicine, U.S.A.
- Emms, S.K., 163, 459
University of Georgia, U.S.A.
- Engstrom, M.D., 445
Royal Ontario Museum, Canada
- Espinasa, L., 668
New York University, U.S.A.
- Etges, W.J., 396
University of Arkansas, U.S.A.
- Evans, J., 825
University of Utah, U.S.A.
- Ewald, J., 517
Universidad del Zulia, Venezuela
- Faber, J.E., 712
Case Western Reserve University, U.S.A.
- Fagen, A., 97
Harvard University, U.S.A.
- Fairbairn, D.J., 25, 186, 611, 612
Concordia University, Canada
- Fang, Q., 510, 524
University of Maryland, U.S.A.
- Fang, S., 468
Academia Sinica, Republic of China
- Feder, J.L., 328, 329, 745
University of Notre Dame, U.S.A.
- Feldgarden, M., 35
Yale University, U.S.A.
- Feldman, M.W., 199
Stanford University, U.S.A.
- Feldman, R.A., 190, 707
Rutgers University, U.S.A.
- Felsenstein, J., 7, 813
University of Washington, U.S.A.
- Fernandes-Matioli, F.M.C., 479
Instituto De Biociencias, Brasil
- Ferraris, J.D., 533
National Institutes of Health, U.S.A.
- Fescemyer, H., 76
Clemson University, U.S.A.
- Fields, C.A., 527, 667
National Center for Genome Resources, U.S.A.
- Filanowski, B., 628
University of Idaho, U.S.A.
- Fisher, R., 21
University of California at San Diego, U.S.A.
- Fletcher, K.C., 80
Bowling Green State University, U.S.A.
- Flores, B.S., 501
Virginia Institute of Marine Science, U.S.A.
- Foltz, D., 801, 843, 842
Louisiana State University, U.S.A.
- Foster, J.A., 282
U. of Idaho, U.S.A.
- Fox, C.W., 734
University of South Carolina, U.S.A.
- Fox, G.A., 680
University of California, U.S.A.
- France, S.C., 708
University of New Hampshire, U.S.A.
- Freed, L., 707
University of Hawaii, U.S.A.
- Freeland, J., 504
Queen's University, Canada
- Freeman, D.C., 161
Wayne State University, U.S.A.
- Freimer, N.B., 539
University of California at San Francisco, U.S.A.
- Friar, E., 8
University of Arizona, U.S.A.
- Friedlander, T., 151
University of Maryland, U.S.A.
- Friesen, M., 474
Department of Fisheries & Oceans, Canada
- Friesen, V.L., 308
Queen's University, Canada
- Fritz, R.S., 216, 265
Vassar College, U.S.A.
- Fry, J.D., 258, 376
North Carolina State University, U.S.A.
- Fuerst, P.A., 432, 480, 522, 523, 542, 688
Ohio State University, U.S.A.
- Fumagalli, L., 444, 627
Institut de Zoologie et d'Ecologie Animale, Switzerland
- Funk, D.J., 324, 486
State University of New York at Stony Brook, U.S.A.
- Gaggiotti, O., 779
Southwest Fisheries Science Center, U.S.A.
- Ganders, F.R., 834, 600, 699
University of British Columbia, Canada
- Garcia, B., 525
Yale University, U.S.A.
- Gardezi, T., 275
Laurentian University, Canada
- Garland, T., 374, 485
University of Wisconsin at Madison, U.S.A.
- Garrett, K.A., 681
University of Georgia, U.S.A.
- Garza, J.C., 539
University of California, U.S.A.
- Gatesy, J., 357, 521
University of Copenhagen, Denmark
- Gaut, B.S., 51
Rutgers University, U.S.A.
- Geedey, C.K., 743
Michigan State University, U.S.A.
- Geiger, H., 159
University of Berne, Switzerland
- Gensel, P.G., 452
University of North Carolina, U.S.A.
- Gerber, A.S., 147, 473
University of Arizona at Tucson, U.S.A.
- Gibbs, A., 180
University of California at Irvine, U.S.A.
- Gibbs, H.L., 747
McMaster University, Canada
- Gibson, G., 382
University of Michigan, U.S.A.
- Gilchrist, G.W., 174
University of Washington, U.S.A.
- Gill, F., 305
Academy of Natural Sciences, U.S.A.
- Gillespie, L., 769
Canadian Museum of Nature, Canada
- Gillespie, R.G., 203
University of Hawaii, U.S.A.

- Gingerich, P.D., 450
University of Michigan, U.S.A.
- Gjetvaj, B., 227
Dalhousie University, Canada
- Glasner, J.D., 626
University of New Hampshire, U.S.A.
- Gleason, J.M., 394
Yale University, U.S.A.
- Gleeson, D., 678
Australian National University, Australia
- Glemet, H., 422
Institut National de la Recherche Scientifique, Canada
- Gliksman, I., 243, 242
Institute for Biological Research, Yugoslavia
- Goddard, S., 370
Memorial University, Canada
- Goebel, A., 14
University of Colorado, U.S.A.
- Goertzen, L., 600
University of British Columbia, Canada
- Goldman, N., 585
National Institute for Medical Research, U.K.
- Goldstein, D., 199
Penn State University, U.S.A.
- Golenberg, E.M., 359
Wayne State University, U.S.A.
- Gompper, N.J., 507, 508
Ohio University, U.S.A.
- Gomulkiewicz, R., 66
University of Kansas, U.S.A.
- Goodisman, M., 162
University of Georgia, U.S.A.
- Goodman, M., 360
Wayne State University, U.S.A.
- Goodnight, K., 58, 205
Rice University, U.S.A.
- Goodwillie, C., 697
University of Washington, U.S.A.
- Goodwin, R.L., 638
University of South Carolina, U.S.A.
- Gouyon, P.H., 520
Université Paris-Sud, France
- Graham, J.H., 161
Berry College, U.S.A.
- Graham, S.W., 772
University of Toronto, Canada
- Grant, A., 536
University of East Anglia, U.K.
- Grant, B.R., 758
Princeton University, U.S.A.
- Grant, P.R., 758
Princeton University, U.S.A.
- Gratton, C.M., 494
Illinois State University at Normal, U.S.A.
- Gray, R., 304, 574
University of Auckland, New Zealand
- Green, D.M., 158, 631
McGill University, Canada
- Griffiths, C.S., 670
American Museum of Natural History, U.S.A.
- Groeters, F., 633, 792
University of South Carolina, U.S.A.
- Gromko, M.H., 240, 311
Bowling Green State University, U.S.A.
- Grosberg, R., 417
University of California at Davis, U.S.A.
- Gross, J., 391
University of Guelph, Canada
- Gross, M., 608
University of Toronto, Canada
- Groth, J.G., 301, 746
American Museum of Natural History, U.S.A.
- Gutierrez, L., 687
University of Houston, U.S.A.
- Gutierrez, R.J., 746
Humboldt State University, U.S.A.
- Guttman, D., 93
State University of New York at Stony Brook, U.S.A.
- Hackett, S.J., 306
American Museum of Natural History, U.S.A.
- Hadrys, H., 96
University of Bonn, Germany
- Haefner, J.W., 238
Utah State University, U.S.A.
- Hafner, M.S., 198, 581
Louisiana State University, U.S.A.
- Hagen, R. H., 211
University of Kansas, U.S.A.
- Hairston Jr., N.G., 257
Cornell University, U.S.A.
- Halanych, K., 749
University of Pretoria, South Africa
- Haller, B.S., 283
Bowling Green State University, U.S.A.
- Hamblin, M.T., 809
Cornell University, U.S.A.
- Hamilton, M.J., 821
Texas Technical University, U.S.A.
- Hamon, T.R., 69
University of Washington, U.S.A.
- Hamrick, J.L., 89, 481, 831
University of Georgia, U.S.A.
- Hanczyk, M., 259
Yale University, U.S.A.
- Hand, S., 553
University of Colorado, U.S.A.
- Handel, S.N., 461
Rutgers University, U.S.A.
- Hanken, J., 799
University of Colorado, U.S.A.
- Hannan, G., 10
Eastern Michigan University, U.S.A.
- Hansen, T.F., 274, 405
University of Oregon, U.S.A.
- Hard, J.J., 140
University of Oregon, U.S.A.
- Hardes, L.D., 617
University of Calgary, Canada
- Harding, E., 234
California State University at Fresno, U.S.A.
- Hare, M., 435, 436
University of Georgia, U.S.A.
- Harris, R.N., 63, 487, 623
James Madison University, U.S.A.
- Harrison, M., 793
University of Alberta, Canada
- Harrison, R., 543
Cornell University, U.S.A.
- Hartigan, J. A., 591
Yale University, U.S.A.
- Hartt, L., 238
Utah State University, U.S.A.
- Harvey, A., 794
American Museum of Natural History, U.S.A.
- Hatfield, T., 327
University of British Columbia, Canada
- Hausser, J., 627
Institut de Zoologie et d'Ecologie Animale, Switzerland
- Hayashi, C., 144
American Museum of Natural History, U.S.A.
- Haydon, D., 641
Oxford University, U.K.
- Hayes, J.P., 485
University of Nevada at Reno, U.S.A.
- Haygood, M.G., 197
Scripps Institution of Oceanography, U.S.A.
- Haynes, J.L., 419
Florida International University, U.S.A.
- Hazel, W., 219, 221
DePauw University, U.S.A.
- Healy, M., 646
CSIRO, Australia
- Heard, S.B., 447
University of British Columbia, Canada
- Heath, D.D., 132
University of Northern British Columbia, Canada
- Hebert, P.D.N., 92, 98, 409, 478, 495, 658
University of Guelph, Canada
- Heckel, D.G., 76, 607
Clemson University, U.S.A.
- Hedin, M.C., 323
Washington University, U.S.A.
- Heed, W.B., 396
University of Arizona, U.S.A.
- Heinstra, P., 554
University of Utrecht, The Netherlands
- Hellberg, M.E., 27
Scripps Institution of Oceanography, U.S.A.
- Hendy, M.D., 653
Massey University, N.Z.
- Henry, C.S., 77
University of Connecticut, U.S.A.
- Henry, G.H.R., 254
University of British Columbia, Canada
- Herbinger, C.M., 227
Dalhousie University, Canada
- Herzig, B., 749
Natural History Museum, Austria
- Hester, L., 497
University of Michigan at Ann Arbor, U.S.A.
- Hey, J., 330, 337, 840
Rutgers University, U.S.A.
- Heywood, J.S., 739
Southwest Missouri State University, U.S.A.
- Hickey, D., 642
University of Ottawa, Canada
- Hickson, R.E., 648, 653, 836
University of Hawaii, U.S.A.
- Hightower, L., 228
University of Connecticut, U.S.A.
- Hilbish, T.J., 83, 156, 437
University of South Carolina, U.S.A.
- Hilborn, R., 69
University of Washington, U.S.A.
- Hillis, D.M., 176, 453
University of Texas at Austin, U.S.A.
- Hilton, H., 841
Rutgers University, U.S.A.
- Himel, A., 801
Louisiana State University, U.S.A.
- Hirsch, J., 56
University of Illinois, U.S.A.
- Ho, K., 345
New York University, U.S.A.
- Hobaek, A., 658
Norwegian Institute for Water Research, Norway
- Hochachka, W.M., 615
University of British Columbia, Canada
- Hochwender, C.G., 719
University of Missouri at St. Louis, U.S.A.
- Hodges, S.A., 84, 87
University of Georgia, U.S.A.
- Hoeben, P., 516
Queensland University of Technology, Australia
- Hoeh, W.R., 191, 192, 588, 677
Dalhousie University, Canada
- Hoelzer, G.A., 341
University of Nevada, U.S.A.
- Hoey, B.K., 774
Northern Illinois University, U.S.A.
- Hoff, Y., 410
University of North Texas, U.S.A.
- Hoffman, S., 349
Lawrence Livermore National Laboratory, U.S.A.
- Hollocher, H., 326
Princeton University, U.S.A.
- Holsinger, K.E., 139, 390, 650, 780
University of Connecticut, U.S.A.
- Holt, R.D., 66
University of Kansas, U.S.A.
- Holzappel, C.M., 140, 742
University of Oregon, U.S.A.
- Holzmann, H., 671
Goethe University, Germany
- Honeycutt, R.L., 354
Texas A&M University, U.S.A.
- Hormiga, G., 145
Smithsonian Institution University of Maryland, U.S.A.
- Horst, K., 151
University of Maryland, U.S.A.
- Houben, A., 631
Institut für Pflanzen-genetik und Kulturpflanzenforschung, Germany
- Houle, D., 294
University of Toronto, Canada
- Howard, D.J., 88
New Mexico State University, U.S.A.
- Howard, R.S., 250
Middle Tennessee State University, U.S.A.
- Howson, R., 331
Brown University, U.S.A.
- Hrincevich, A.W., 801, 843
Louisiana State University, U.S.A.
- Hsiao, C., 547
Utah State University at Logan, U.S.A.
- Hsiao, T.H., 528
Utah State University, U.S.A.
- Hu, Y., 842
Louisiana State University, U.S.A.
- Huai, H., 253, 644, 819
Bowling Green State University, U.S.A.
- Huelsenbeck, J.P., 108, 110
The University of Texas at Austin, U.S.A.
- Huey, R. B., 174
University of Washington, U.S.A.
- Hughes, A.L., 639
Pennsylvania State University, U.S.A.
- Hughes, J. M., 303
University of Toronto, Canada
- Hugot, J. P., 335
Museum National d'Histoire Naturelle, France
- Hunt, J., 441
Smithsonian Tropical Research Institute, U.S.A.
- Hunt Jones, M., 254
University of Alberta, Canada
- Husband, B.C., 391, 696
University of Guelph, Canada

- Hutchison, D.W., 784
Washington University, U.S.A.
- Ihara, J., 488
MiraCosta College, U.S.A.
- Innes, D.J., 130, 131
Memorial University, Canada
- Ireland, W., 282
U. of Idaho, U.S.A.
- Irschick, D., 21
Washington University, U.S.A.
- Itarua de Severeyn, Y., 517
Universidad del Zulia, Venezuela
- Iwao, K., 247
Duke University, U.S.A.
- Jackson, K., 22
University of Toronto, Canada
- Jacobs, S.C., 351
Washington University, U.S.A.
- Jaenike, J., 514
University of Rochester, U.S.A.
- James, S.H., 99, 782
The University of Western Australia, Australia
- Jarne, P., 804
Université Montpellier II, France
- Jasienski, M 121
Harvard University, U.S.A.
- Jauies, D., 193
State University of New York at Stony Brook, U.S.A.
- Jayne, B.C., 28
University of Cincinnati, U.S.A.
- Jeandroz, S., 509
Université Laval, Canada
- Jellyman, D., 544
National Institute of Water and Atmosphere, New Zealand
- Jenkins, D.L., 636
University of Nottingham, U.K.
- Jennetten, P., 462
University of Illinois at Champaign, U.S.A.
- Jensen, D.P., 452
University of North Carolina, U.S.A.
- Jensen, R.J., 374
St. Mary's College, U.S.A.
- Jergensen, H., 343
University of Copenhagen, Denmark
- Jobe, J., 173
University of Kansas, U.S.A.
- Jockusch, E.L., 666
University of California at Berkeley, U.S.A.
- Johnson, B.S., 785
University of Nevada, U.S.A.
- Johnson, L.A., 770
Washington State University, U.S.A.
- Johnson, N.A., 72, 78
University of Chicago, U.S.A.
- Johnson, S.G., 172
University of New Orleans, U.S.A.
- Johnson, T., 244
University of Colorado, U.S.A.
- Johnston, M.O., 691
Dalhousie University, Canada
- Jones, A.G., 424
University of Georgia, U.S.A.
- Jones, D., 585
National Institute for Medical Research, U.K.
- Jones, H.I., 610
Health Department of Western Australia, Australia
- Jones, K. B., 298
University of Nevada, U.S.A.
- Jones, R., 220
Memorial University of Newfoundland, Canada
- Joshi, A., 731
University of California at Irvine, U.S.A.
- Juliano, N.D., 654
Harvard University, U.S.A.
- Justus, J., 608
University of Toronto, Canada
- Kaatz, I.M., 23
State University of New York at Syracuse, U.S.A.
- Kahn, N.W., 213
University of Denver, U.S.A.
- Kain, D., 440
University of California at Berkeley, U.S.A.
- Kaiser, M., 727
Zoology Institute, Switzerland
- Kambysellis, M., 345
New York University, U.S.A.
- Kandl, K.L., 165
University of Georgia, U.S.A.
- Kann, L.M., 208, 643
Brown University, U.S.A.
- Kaplan, N., 757
National Institute of Environmental Health Sciences, U.S.A.
- Karol, K.G., 768
DePaul University, U.S.A.
- Karoly, K., 835
Reed College, U.S.A.
- Karr, T., 464
University of Chicago, U.S.A.
- Karron, J.D., 700
University of Wisconsin, U.S.A.
- Katz, L.A., 590
Cornell University, U.S.A.
- Kaufman, L., 480, 522, 542
Boston University, U.S.A.
- Kaufman, S., 428
Rutgers University, U.S.A.
- Kaweclei, T., 727
Zoology Institute, Switzerland
- Keating, J., 488
California State University at San Marcos, U.S.A.
- Keeling, C., 245
University of Connecticut, U.S.A.
- Keightley, P.D., 293
University of Edinburgh, U.K.
- Kelley, K., 29
University of Chicago, U.S.A.
- Kellogg, E.A., 654, 771
Harvard University, U.S.A.
- Kelly, C.K., 410
University of North Texas, U.S.A.
- Kelly, J., 40
University of Chicago, U.S.A.
- Kendall, B.E., 680
University of Arizona, U.S.A.
- Kennedy, M., 304
University of Otago, New Zealand
- Kennedy, P., 526
San Francisco State University, U.S.A.
- Kennington, W.J., 99
The University of Western Australia, Australia
- Kercher, S., 462
University of Illinois at Champaign, U.S.A.
- Kerlavage, A.R., 527, 667
The Institute for Genomic Research, U.S.A.
- Kesseli, R., 385, 830
University of Massachusetts, U.S.A.
- Khazaeli, A., 618, 619
University of Minnesota, U.S.A.
- Kidwell, M.G., 511, 625
University of Arizona, U.S.A.
- Kilpatrick, C.W., 662
University of Vermont, U.S.A.
- Kim, J., 796, 109
Yale University, U.S.A.
- Kingsolver, J., 127
University of Washington, U.S.A.
- Kiparsky, M., 185
Brown University, U.S.A.
- Kirby, D., 38
University of Maryland, U.S.A.
- Kirkpatrick, M., 603, 605
University of Texas at Austin, U.S.A.
- Kirsch, J.A.W., 332, 333, 489
University of Wisconsin
- Kjer, K., 565, 649
Brigham Young University, U.S.A.
- Kleckner, C.A., 140
University of Oregon, U.S.A.
- Klein, N., 433
American Museum of Natural History, U.S.A.
- Kliman, R.M., 344
Radford University, U.S.A.
- Klingenberg, C.P., 798
University of Alberta, Canada
- Klingler, J., 58
Rice University, U.S.A.
- Knight, I.T., 487
James Madison University, U.S.A.
- Kobak, C.J., 832
Rutgers University, U.S.A.
- Kocher, T.D., 362, 366, 472, 626, 651, 708
University of New Hampshire, U.S.A.
- Koenig, G.L., 95
Roche Molecular Systems, U.S.A.
- Kohn, D., 224
Imperial College, U.K.
- Kohnen, I., 535
University of Jena, Germany
- Kolluru, G.R., 133
University of California at Riverside, U.S.A.
- Kolzkowski, L.F., 342
Children's Hospital, U.S.A.
- Kondrashov, A., 295
Cornell University, U.S.A.
- Konkle, B.R., 267
University of Illinois, U.S.A.
- Kores, P.J., 775
Loyola University, U.S.A.
- Komfield, I., 365
University of Maine, U.S.A.
- Koufopanou, V., 47
University of California at Berkeley, U.S.A.
- Kreiger, J., 523
The Ohio State University, U.S.A.
- Kreitman, M., 477
University of Chicago, U.S.A.
- Krukonis, G.P., 178, 717
Wesleyan University, U.S.A.
- Kuhn, D.N., 419
Florida International University, U.S.A.
- Kuhner, M.K., 7
University of Washington, U.S.A.
- Kulathinal, R.J., 266
McMaster University, Canada
- Kumm, J., 816
Stanford University, U.S.A.
- Kuzoff, R.K., 770
Washington State University, U.S.A.
- Lacey, E.P., 229
University of North Carolina, U.S.A.
- Lachance, J., 326
University of Chicago, U.S.A.
- Laffin, D., 85
State University of New York at Cortland, U.S.A.
- LaForest, S., 456
State University of New York at Stony Brook, U.S.A.
- Lamberti, G., 745
University of Notre Dame, U.S.A.
- Lamboy, W., 374
Cornell University, U.S.A.
- Lance, S.L., 54
University of Maryland, U.S.A.
- Landry, C., 10
Eastern Michigan University, U.S.A.
- Langley, C.H., 381
University of California at Davis, U.S.A.
- Lank, D.B., 134, 759
Simon Fraser University, Canada
- Lapointe, F.-J., 332, 333, 489
Université de Montreal, Canada
- Lara, M., 443
University of California at Berkeley, U.S.A.
- Lara-Moreno, C., 818
Universidad Nacional Autonoma de Mexico, Mexico
- Laroche, J., 195
Laval University, Canada
- Larsen, E., 393
Villanova University, U.S.A.
- Larsen, F., 787
Greenland Fisheries Research Institute, Denmark
- Larson, A., 351
Washington University, U.S.A.
- Latta, R.G., 237, 741
University of Colorado, U.S.A.
- Laubichler, M., 35
Yale University, U.S.A.
- Laurie, C.C., 382, 549
Duke University, U.S.A.
- Lawson, E., 571
University of Miami, U.S.A.
- Leahy, N., 330, 337
Rutgers University, U.S.A.
- Leclerc, G., 12
University of South Carolina, U.S.A.
- Leduc, R., 358
SWFSC, U.S.A.
- Lee, C.E., 278
University of Washington, U.S.A.
- Lee, P.L.M., 567
Oxford University, England
- Lee, R.N., 285
University of Idaho, U.S.A.
- Lee, S., 258
North Carolina State University, U.S.A.
- Lee, W., 366
University of New Hampshire, U.S.A.
- Leips, J., 685
Florida State University, U.S.A.
- Lejeune, B., 499, 520
Université Paris-Sud, France
- Lento, G.M., 653
Victoria University, N.Z.
- Leroi, A., 790
Albert Einstein College of Medicine, U.S.A.
- Les, D.H., 773
University of Connecticut, U.S.A.
- Lesma, R., 231
Arizona State University, U.S.A.

- Levin, D.A., 9
University of Texas, U.S.A.
- Levin, S.A., 715
Princeton University, U.S.A.
- Levitan, D., 417
Florida State University, U.S.A.
- Lewis, K.M., 745
University of Notre Dame, U.S.A.
- Lewis, P.O., 112, 113
Smithsonian Institution, U.S.A.
- Li, P., 195
Université Laval, Canada
- Li, S., 496
State University of New York at Albany, U.S.A.
- Li, W., 111
The University of Texas at Houston, U.S.A.
- Lieberman, D., 214
University of North Dakota, U.S.A.
- Lieberman, M., 214
University of North Dakota, U.S.A.
- Liedo, P., 616
Centro de Investigaciones Ecologicas
- Lin, F.J., 236, 468, 545
Academia Sinica, Republic of China
- Lin, J., 692
University of Toronto, Canada
- Linures, A. R., 199
Universidad de Antioquia,
- Lippitsch, E., 503
Austrian Science Foundation, Austria
- Lips, K.R., 37
University of Miami, U.S.A.
- Lister, Z., 628
University of Idaho, U.S.A.
- Litt, A., 776
New York Botanical Garden, U.S.A.
- Little, T.J., 92
University of Guelph, Canada
- Littlejohn, M.J., 71
University of Melbourne, Australia
- Liu, F., 477
University of Chicago, U.S.A.
- Liu, H., 438
University of Georgia, U.S.A.
- Liu, J.J., 382
Duke University, U.S.A.
- Liu, M.K., 838
University of South Carolina, U.S.A.
- Lively, C.M., 172, 568
Indiana University, U.S.A.
- Lockhart, P.J., 653
Massey University, N.Z.
- Lofdahl, K., 57, 723
University of Guam, U.S.A.
- Lofstedt, C 456
State University of New York at Stony Brook, U.S.A.
- Lofsvold, D., 454
Franklin & Marshall College, U.S.A.
- Lomakin, M.D., 821
International Research & Development Agency, Ukraine
- Long, A.D., 381
University of California at Davis, U.S.A.
- Lopez-Leon, M.D., 271, 272
Universidad de Granada, Spain
- Lorch, P.D., 281
University of Toronto, Canada
- Losos, J.B., 19, 20, 21
Washington University, U.S.A.
- Loveless, M.D., 831
College of Wooster, U.S.A.
- Loverre-Chyurlia, A., 642
University of Ottawa, Canada
- Lovette, I., 442
University of Pennsylvania, U.S.A.
- Lowe, A., 86
University of St. Andrews, U.K.
- Lowe, C., 193
State University of New York at Stony Brook, U.S.A.
- Lu, Y., 167
University of Wisconsin, U.S.A.
- Lubinski, B.A., 805
Virginia Polytechnic Institute and State University, U.S.A.
- Lue, K. Y., 665
National Taiwan Normal University, Taiwan
- Luft, B., 93
State University of New York at Stony Brook, U.S.A.
- Lutz, R.A., 142, 190, 677
Rutgers University, U.S.A.
- Lutzoni, F., 602
Duke University, U.S.A.
- Lynch, M., 42, 94
University of Oregon, U.S.A.
- Ma, J., 516
Queensland University of Technology, Australia
- Ma, Y.T., 76
Clemson University, U.S.A.
- Mable, B., 564
University of Texas at Austin, U.S.A.
- Macdonald, S.E., 254
University of Alberta, Canada
- Machado, C.A., 572
University of California at Irvine, U.S.A.
- Mackay, T.F.C., 258, 292, 383, 381, 629, 751
North Carolina State University, U.S.A.
- Maddison, D., 505
University of Arizona at Tucson, U.S.A.
- Maddison, W., 505
University of Arizona at Tucson, U.S.A.
- Madison, W., 3
Arizona State University, U.S.A.
- Mallampalli, V.L., 577
University of Maryland, U.S.A.
- Manicacci, D., 656
CNRS-CEFE Montpellier, France
- Marcato, S., 559
University of Padova, Italy
- Margoliash, E., 348
University of Illinois at Chicago, U.S.A.
- Mariaux, J., 534, 674
University of Neuchatel, Switzerland
- Mark, J., 97
Harvard University, U.S.A.
- Markert, J.A., 472
University of New Hampshire, U.S.A.
- Marko, P., 657
University of California at Berkeley, U.S.A.
- Markow, T., 464
Arizona State University, U.S.A.
- Marquis, R.J., 183
University of Missouri, U.S.A.
- Marshall, D., 307
Royal Ontario Museum, Canada
- Marshall, K.A., 204
Bowling Green State University, U.S.A.
- Marshman, J., 515
University of Chicago, U.S.A.
- Martin, A., 580
University of Nevada, U.S.A.
- Martin, J.D., 734
University of South Carolina, U.S.A.
- Martin-Alganza, A., 271, 272
Universidad de Granada, Spain
- Martinez, D.E., 795
University of California, U.S.A.
- Martins, E.P., 405, 406
University of Oregon, U.S.A.
- Masaki, S., 24
McGill University, Canada
- Mason-Gamer, R.J., 771
Harvard University, U.S.A.
- Mathiopoulos, K., 525
University of Rome, Italy
- Mattioli, S.R., 434
Universidade de Sao Paulo, Brazil
- Matlow, J., 259
Yale University, U.S.A.
- Matocq, M.D., 15
San Francisco State University, U.S.A.
- Matsuda, H., 570
Kyushu University, Japan
- Mattei, J.H., 720
Rutgers University, U.S.A.
- Mathee, C. A., 355
University of Pretoria, South Africa
- Mattiucci, S., 839
University of Rome, Italy
- Mauricio, R., 41
Duke University, U.S.A.
- McAllister, B.F., 632
University of Rochester, U.S.A.
- McCaig, B.C., 476
University of California at Riverside, U.S.A.
- McConnell, J., 311
Case Western Reserve, U.S.A.
- McCourt, R.M., 768
DePaul University, U.S.A.
- McDowell, J.M., 540
University of Georgia, U.S.A.
- McElroy, D.M., 506
Western Kentucky University, U.S.A.
- McGrath, K.M., 487
James Madison University, U.S.A.
- McGraw, J.B., 225
West Virginia University, U.S.A.
- McGuire, J.A., 110
The University of Texas at Austin, U.S.A.
- McHugh, D., 676
Cornell University, U.S.A.
- McIntyre, L.M., 384, 705
North Carolina State University, U.S.A.
- McLellan, L.J., 350
Central Missouri State University, U.S.A.
- McManus, M., 418
Lake Forest College, U.S.A.
- McMillan, A., 469
University of Kansas, U.S.A.
- McMillen-Jackson, A.L., 373
Florida Marine Research Institute, U.S.A.
- McNeill, J., 374
Royal Ontario Museum, Canada
- McPeck, M., 378
Dartmouth University, U.S.A.
- McPhail, J. D., 531
University of British Columbia, Canada
- McShea, D.W., 450
Santa Fe Institute, U.S.A.
- Meagher, R.B., 540
University of Georgia, U.S.A.
- Meagher, T.R., 832
Rutgers University, U.S.A.
- Meffe, G.K., 729
University of Georgia, U.S.A.
- Melendez-Ackerman, E.J., 460
University of California at Irvine, U.S.A.
- Melnick, D.J., 341, 713
Columbia University, U.S.A.
- Mercer, J.M., 353, 382
Duke University, U.S.A.
- Merre, E.A., 572
Smithsonian Tropical Research Institute, U.S.A.
- Meselson, M., 97
Harvard University, U.S.A.
- Messenger, S., 177
University of Texas, U.S.A.
- Metz, E.C., 202, 635
University of Hawaii, U.S.A.
- Meyer, A., 363, 555, 563
State University of New York at Stony Brook, U.S.A.
- Mikuljanac, S., 243
Institute for Biological Research, Yugoslavia
- Milanovic, D., 242, 243
Institute for Biological Research, Yugoslavia
- Milinkovitch, M.C., 358
Liege University, Belgium
- Milks, M.L., 569
University of British Columbia, Canada
- Miller, E.H., 613
Memorial University of Newfoundland, Canada
- Miller, G., 240
Bowling Green State University, U.S.A.
- Miller, J.S., 150
American Museum of Natural History, U.S.A.
- Milligan, B., 817
New Mexico State University, U.S.A.
- Mindell, D.P., 672
University of Michigan, U.S.A.
- Mitchell, A., 149, 510
University of Maryland, U.S.A.
- Mitchell, S., 397
U.S. Department of Agriculture, U.S.A.
- Mitchell-Olds, T., 386, 389, 753
University of Montana, U.S.A.
- Mitrica, I., 812
Wesleyan University, U.S.A.
- Mitter, C., 149, 510, 524
University of Maryland, U.S.A.
- Mittler, J., 823
Emory University, U.S.A.
- Mitton, J.B., 438, 711, 741
University of Colorado, U.S.A.
- Mojonnier, L., 34
Duke University, U.S.A.
- Molofsky, J., 715
University of Vermont, U.S.A.
- Molvray, M., 775
Loyola University, U.S.A.
- Momen, H., 513
Fiocruz, Brazil
- Monteiro, A., 318
Leiden University, The Netherlands
- Mooers, A., 789
University of British Columbia, Canada
- Moore, W., 519, 538, 546
Wayne State University, U.S.A.
- Moran, N.A., 152
University of Arizona, U.S.A.
- Moran, P., 11, 371
Northwest Fisheries Science Center, U.S.A.
- Morel Andre, P., 674
University of Neuchatel, Switzerland
- Morrison, C., 322
Florida State University, U.S.A.

- Morton, B.R., 51, 584, 263
University of California at Riverside, U.S.A.
- Morton, R.A., 266
McMaster University, Canada
- Mosquin, S.V., 230
Pennsylvania State University, U.S.A.
- Mount, D., 8
University of Arizona, U.S.A.
- Mountain, J.L., 714
University of California, U.S.A.
- Mousseau, T.A., 132, 734, 735, 733
University of South Carolina, U.S.A.
- Mueller, L.D., 731
University of California at Irvine, U.S.A.
- Mulcahy, D.L., 740, 830
University of Massachusetts, U.S.A.
- Mullaney, S.L., 381
University of California at Davis, U.S.A.
- Mulvey, M., 750
Savannah River Ecology Laboratory, U.S.A.
- Mulyk, D., 148
University of British Columbia, Canada
- Muse, S., 338, 583
Pennsylvania State University, U.S.A.
- Mwanja, W., 542
The Ohio State University, U.S.A.
- Myers, J.H., 761
University of British Columbia, Canada
- Myles, T.G., 334
University of Toronto, Canada
- Nachman, M.W., 634
Cornell University, U.S.A.
- Nadot, S., 499, 536
University of East Anglia, U.K.
- Nascetti, G., 82, 839
University Viterbo, Italy
- Nayar, K., 796
Yale University, U.S.A.
- Naylor, G.J.P., 650, 652
Arizona State University, U.S.A.
- Neal, C.L., 285
University of Idaho, U.S.A.
- Nealen, P.M., 414
University of Pennsylvania, U.S.A.
- Nedbal, M.A., 354
Texas A&M University, U.S.A.
- Nelson, J.A., 774
Northern Illinois University, U.S.A.
- Nelson, L., 640
Fred Hutchinson Cancer Research Center, U.S.A.
- Newcomb, R.D., 645
Australian National University and CSIRO, Australia
- Nickerson, J.G., 537
University of Ottawa, Canada
- Nickrent, D.L., 770
Southern Illinois University, U.S.A.
- Nielsen, R., 586
University of California at Berkeley, U.S.A.
- Nikitin, A.G., 239
Bowling Green State University, U.S.A.
- Njoroge, J.M., 223
McGill University, Canada
- Noack, K., 555
The University of New York at Stony Brook, U.S.A.
- Noor, M.A., 325
University of Chicago, U.S.A.
- Nordborg, M., 201
University of Chicago, U.S.A.
- Norenburg, J.L., 533
Smithsonian Institution, U.S.A.
- Norman, J.E., 348, 361
University of Illinois at Chicago, U.S.A.
- Nuahdin, S., 206, 629
North Carolina State University, U.S.A.
- Nunez-Farfan, J., 200
Universidad Nacional Autonoma de Mexico, Mexico
- Nunney, L., 6
University of California at Riverside, U.S.A.
- Nur, U., 268
University of Rochester, U.S.A.
- O'Brien, W.J., 211
University of Kansas, U.S.A.
- O'Dor, R.K., 227
Dalhousie University, Canada
- O'Grady, P., 511
University of Arizona at Tucson, U.S.A.
- Oakeshott, J.G., 645, 646
Australian National University and CSIRO, Australia
- Oakley, T., 512
University of Wisconsin at Milwaukee, U.S.A.
- Oberholzer, V.M., 263
University of California, U.S.A.
- Odgers, W., 646
CSIRO, Australia
- Olmstead, R., 50, 106
University of Colorado, U.S.A.
- Olsson, L., 799
University of Colorado, U.S.A.
- Olvido, A.E., 733
University of South Carolina, U.S.A.
- Omland, K., 484, 606
State University of New York at Albany, U.S.A.
- Opell, B.D., 146
Virginia Polytechnical Institute and State University, U.S.A.
- Orecchia, P., 839
University of Rome, Italy
- Orians, C.M., 265
Williams College, U.S.A.
- Orive, M.E., 815
University of Georgia, U.S.A.
- Orr, H.A., 31
University of Rochester, U.S.A.
- Orrego, C., 15
San Francisco State University, U.S.A.
- Orsoy, T., 373
Dames & Moore, U.S.A.
- Orti, G., 561, 562
State University of New York at Stony Brook, U.S.A.
- Oth, G., 363
State University of New York at Stony Brook, U.S.A.
- Otterson, J., 387
University of Minnesota, U.S.A.
- Otto, S.P., 104
University of Edinburgh, U.K.
- Ouborg, N. J., 166
University of Nymegen, The Netherlands
- Overath, R.D., 802
The University of Georgia, U.S.A.
- Oxford, G.S., 203
University of York, U.K.
- Pacejka, A.J., 494
Illinois State University at Normal, U.S.A.
- Packer, L., 399
York University, Canada
- Page, R.D.M., 1, 573
Oxford University, U.K.
- Palmer, A.R., 793
University of Alberta, Canada
- Palmer, R., 288
University of Alberta, Canada
- Palsboll, P., 343, 787
University of Copenhagen, Denmark
- Palumbi, S.R., 321, 635, 675, 689
University of Hawaii, U.S.A.
- Palys, T., 717
Wesleyan University, U.S.A.
- Pamilo, P., 594
Uppsala University, Sweden
- Paoletti, C., 390
University of Connecticut, U.S.A.
- Parichy, D.M., 738
University of California at Davis, U.S.A.
- Park, J., 231
Arizona State University, U.S.A.
- Park, L.K., 11, 371
Northwest Fisheries Science Center, U.S.A.
- Parker, A., 365
University of Maine, U.S.A.
- Parker, M.A., 716, 718
State University of New York at Binghamton, U.S.A.
- Parman, A.O., 91
University of Illinois, U.S.A.
- Parmesan, C., 763
University of Texas at Austin, U.S.A.
- Parsch, J., 249
University of Maryland, U.S.A.
- Pasteur, N., 593
Université de Montpellier, France
- Pasyukova, E., 629
Institute of Molecular Genetics, Russia
- Patarnello, T., 53, 559
University of Padova, Italy
- Paterson, A., 574
Lincoln University, New Zealand
- Patton, J.L., 443, 846
University of California at Berkeley, U.S.A.
- Pavek, D., 386
University of Montana, U.S.A.
- Peek, A.S., 837
Rutgers University, U.S.A.
- Pempera, M., 470
Marine Biology Center, Poland
- Penny, D., 448, 648, 653
Massey University, N.Z.
- Perlitz, M., 251
University of Maryland, U.S.A.
- Perlman, S., 280
University of Toronto, Canada
- Perna, N.T., 651
University of New Hampshire, U.S.A.
- Person, D., 844
University of Alaska, U.S.A.
- Peters, G.B., 833
Queen Elizabeth Hospital, Australia
- Peters, J., 60
Cornell University, U.S.A.
- Petren, K., 21
University of California at San Diego, U.S.A.
- Philipp, D.P., 267
University of Illinois, U.S.A.
- Phillips, K.S., 704
Cornell University, U.S.A.
- Phillips, P.C., 36, 232
University of Texas at Arlington, U.S.A.
- Pierce, N.E., 725
Harvard University, U.S.A.
- Pierce, V., 431
University of Chicago, U.S.A.
- Pigliucci, M., 117, 118
Brown University, U.S.A.
- Pinero, D., 471
Universidad Nacional Autonoma de Mexico, Mexico
- Pitnick, S., 464
Bowling Green State University, U.S.A.
- Platenkamp, G.A.J., 315
Jones and Stokes Associates, U.S.A.
- Podolsky, R.H., 384
University of Michigan at Flint U.S.A.
- Polans, N.O., 774
Northern Illinois University, U.S.A.
- Pollak, E., 807
Iowa State University, U.S.A.
- Pollock, D.D., 403
Stanford University, U.S.A.
- Poole, R., 524
Department of Agriculture, U.S.A.
- Pope, T., 748
Duke University, U.S.A.
- Porter, A., 159
Bowling Green University, U.S.A.
- Porter, C., 360
Wayne State University, U.S.A.
- Postma, L., 474
University of Manitoba, Canada
- Potts, W., 748
University of Florida, U.S.A.
- Pourlak, L., 793
Simon Fraser University, Canada
- Powell, J.R., 394, 525
Yale University, U.S.A.
- Powers, D.A., 52, 196
Stanford University, U.S.A.
- Prat, F., 340
University of Ottawa, Canada
- Pray, L., 426
University of Vermont, U.S.A.
- Preziosi, R., 611, 612
McGill University, Canada
- Price, D.K., 274
University of Oregon, U.S.A.
- Price, R.A., 89, 540
University of Georgia, U.S.A.
- Pritchard, J.K., 811
Stanford University, U.S.A.
- Pritchard, J.R., 256
University of British Columbia, Canada
- Promislow, D., 618, 619, 816
University of Minnesota, U.S.A.
- Prychitko, T., 546
Wayne State University, U.S.A.
- Ptacek, M.B., 455
Florida State University, U.S.A.
- Purdue, J.R., 786
Illinois State Museum, U.S.A.
- Purdy, B.G., 781
University of Alberta
- Purugganan, M., 44
University of California at San Diego, U.S.A.
- Quattro, J., 196
University of South Carolina, U.S.A.
- Queller, D., 58, 59, 60, 205
Rice University, U.S.A.
- Quinn, T.W., 213
University of Denver, U.S.A.
- Raguso, R.A., 137
University of Michigan, U.S.A.
- Rand, A.S., 604
Smithsonian Tropical Research Institute, U.S.A.
- Rand, D.M., 185, 208, 331, 421, 475, 643, 660
Brown University, U.S.A.
- Randall, J.A., 15
San Francisco State University, U.S.A.

- Rannala, B., 467, 591
Yale University, U.S.A.
- Rauscher, J.T., 427
Washington University, U.S.A.
- Rausher, M., 695
Duke University, U.S.A.
- Rawson, P., 156
University of South Carolina, U.S.A.
- Rawson, P.D., 83
University of South Carolina, U.S.A.
- Raymond, M., 593
Université de Montpellier, France
- Read, A., 827
University of Edinburgh, U.K.
- Reeder, T.W., 297
National Museum of Natural History, U.S.A.
- Reeve, J., 186
Concordia University, Canada
- Regier, J.C., 149, 151, 510, 524
University of Maryland, U.S.A.
- Rehner, S., 765
United States Department of Agriculture, U.S.A.
- Reid, L.A., 487, 381
North Carolina State University, U.S.A.
- Reimchen, T.E., 141
University of Victoria, Canada
- Reis, R., 367
Pontificale Universidade Catholico Rio Grande do Sul, Brazil
- Resto, L.J., 482
University of Puerto Rico, U.S.A.
- Reznick, D.N., 133, 730
University of California at Riverside, U.S.A.
- Rhymer, J., 607
Clemson University, U.S.A.
- Rice, K., 342
Harvard University, U.S.A.
- Richards, M., 640
Fred Hutchinson Cancer Research Center, U.S.A.
- Ricklefs, R.E., 414, 441, 442
University of Pennsylvania, U.S.A.
- Rieseberg, L.H., 822
Indiana University, U.S.A.
- Riley, M.A., 248, 647
Yale University, U.S.A.
- Ritchie, P., 363
State University of New York at Stony Brook, U.S.A.
- Ritland, C., 800
- Ritland, K., 132, 541, 692, 701, 800
University of Toronto, Canada
- Robertson, R.J., 532
University of California at Berkeley, U.S.A.
- Robichaux, R., 8
University of Arizona, U.S.A.
- Robinson, B.W., 70
Binghamton University, U.S.A.
- Robinson, T.J., 749
University of Pretoria, South Africa
- Roca, A.I., 45
University of Wisconsin, U.S.A.
- Roche, B.M., 216, 265
Vassar College, U.S.A.
- Rodd, H., 491
Florida State University, U.S.A.
- Roderick, G., 202
University of Hawaii, U.S.A.
- Roethel, J.B., 328, 329
University of Notre Dame, U.S.A.
- Roff, D.A., 24, 309, 312, 313, 317
McGill University, Canada
- Rogers, A.D., 533
Marine Biological Association of the U.K., U.K.
- Rogers, D.E., 69
University of Washington, U.S.A.
- Rogers, J.S., 114
University of New Orleans, U.S.A.
- Rohlf, F.J., 287
State University of New York, U.S.A.
- Romano, S., 675
Smithsonian Institution, U.S.A.
- Ronquist, F., 655
Swedish Museum of Natural History, Sweden
- Ronsheim, M., 235
Vassar College, U.S.A.
- Rosenburg, W.M., 826
Ohio University, U.S.A.
- Rose, M.R., 181, 184
University of California, U.S.A.
- Rosel, P.E., 17
University of New Hampshire, U.S.A.
- Rosenblum, L.L., 713
Columbia University, U.S.A.
- Rosenthal, A., 535
University of Jena, Germany
- Rosing, M., 844
University of Alaska, U.S.A.
- Ross, C., 160
Cornell University, U.S.A.
- Roth, V.L., 353
Duke University, U.S.A.
- Rounsley, S., 44
University of California at San Diego, U.S.A.
- Routman, E., 526, 754
San Francisco State University, U.S.A.
- Rowanchild, R., 457
University of Toronto, Canada
- Rowell, C., 418
Lake Forest College, U.S.A.
- Rowell, D., 678
Australian National University, Australia
- Roy, A., 400, 509
McGill University, Canada
- Ruckelshaus, M., 783
Florida State University, U.S.A.
- Ruedi, M., 444
University of California at Berkeley, U.S.A.
- Rush, S., 462
University of Illinois at Champaign, U.S.A.
- Russell, A.L., 207
Bowling Green State University, U.S.A.
- Russell, D.L., 285
University of Idaho, U.S.A.
- Russell, R.J., 645
Australian National University and CSIRO, Australia
- Ruvolo, M., 352
Harvard University, U.S.A.
- Ruzzante, D., 370
Dalhousie University, Canada
- Ryan, M.J., 453, 604
University of Texas at Austin, U.S.A.
- Saavedra, C., 191
University of Crete, Greece
- Sage, R., 350
University of Missouri, U.S.A.
- Sagers, C.L., 255
University of Arkansas, U.S.A.
- Saks, M., 187
California Institute of Technology, U.S.A.
- Salguero, P.F., 349
National Cancer Institute, U.S.A.
- Sallicandro, P., 82
University of Rome, Italy
- Sampson, J., 187
California Institute of Technology, U.S.A.
- San Juan, A., 465
Universidad De Vigo, Spain
- Sanjur, O., 557
Rutgers University, U.S.A.
- Schaeffer, S.W., 212, 811
Pennsylvania State University, U.S.A.
- Schappert, P., 721
York University, Canada
- Schawaroch, V., 395
American Museum of Natural History, U.S.A.
- Scheffer, S.J., 164
State University of New York at Stony Brook, U.S.A.
- Scheiner, S.M., 124
Arizona State University West, U.S.A.
- Schemske, D.W., 696
University of Washington, U.S.A.
- Schicrenbeck, K.A., 214
California State University, U.S.A.
- Schierwater, B., 96, 671
J.W. Goethe University, Germany
- Schlichting, C., 117
University of Connecticut, U.S.A.
- Schliwen, U., 369
Max-Planck-Institut, Germany
- Schluter, D., 256, 764, 789
University of British Columbia, Canada
- Schmidt, G.W., 339
University of Georgia, U.S.A.
- Schmidt, P., 421
Brown University, U.S.A.
- Schmidt, R., 44
University of California at San Diego, U.S.A.
- Schmitt, J., 118, 119, 120
Brown University, U.S.A.
- Schnabel, A., 155, 831
Iowa State University, U.S.A.
- Schneider, C., 157, 425
University of Queensland, Australia
- Schoen, D.J., 691
McGill University, Canada
- Scholl, A., 159
University of Berne, Switzerland
- Schrag, S., 823
Emory University, U.S.A.
- Schug, M., 688
Ohio State University, U.S.A.
- Schug, M.D., 432
Ohio State University, U.S.A.
- Schulte, P.M., 52
Stanford University, U.S.A.
- Schultz, R., 228
University of Connecticut, U.S.A.
- Schultz, S.T., 388, 698, 699
University of Oregon, U.S.A.
- Schwanninger, H., 659
Cornell University, U.S.A.
- Schwenk, K., 79
Netherlands Institute of Ecology, Netherlands
- Scott, M.E., 182, 223
McGill University, Canada
- Scott, T.W., 577
University of Maryland, U.S.A.
- Scriber, J.M., 722
Michigan State University, U.S.A.
- Sears, R., 787
Mingan Island Cetacean Study Inc., U.S.A.
- Seawright, J., 397
U.S. Department of Agriculture, U.S.A.
- Secor, C.L., 437
University of South Carolina, U.S.A.
- Secord, D., 724
University of Washington, U.S.A.
- Seelanan, T., 155
Iowa State University, U.S.A.
- Seeger, J., 252
University of Utah, U.S.A.
- Seppa, P., 594
Rice University, U.S.A.
- Servedio, M., 605
University of Texas at Austin, U.S.A.
- Service, P.M., 129
Northern Arizona University, U.S.A.
- Seslija, D., 243
Institute for Biological Research, Yugoslavia
- Seutin, G., 441, 442
Smithsonian Tropical Research Institute, U.S.A.
- Severein, H., 517
Universidad del Zulia, Venezuela
- Seyoum, S., 373
Florida Marine Research Institute, U.S.A.
- Shank, T.M., 142, 190
Rutgers University, U.S.A.
- Shantz, A.B., 73
University of Delaware, U.S.A.
- Shapiro, L., 153
State University of New York at Stony Brook, U.S.A.
- Sharbel, T., 631
McGill University, Canada
- Sharkey, M., 105, 400
Agriculture & Agrifood Canada
- Shaw, D., 792
Australian National University, Australia
- Shaw, F.H., 314
University of Minnesota, U.S.A.
- Shaw, K.L., 264
Harvard University, U.S.A.
- Shaw, R.G., 315, 316, 387
University of Minnesota, U.S.A.
- Shedlock, A.M., 197
University of Washington, U.S.A.
- Sheldon, F., 305
Louisiana State University, U.S.A.
- Sherman, A., 284
University of Idaho, U.S.A.
- Shields, G.F., 529, 844
University of Alaska, U.S.A.
- Shin, Y., 57, 492
University of Guam, U.S.A.
- Shoemaker, D., 162
University of Rochester, U.S.A.
- Shoemaker, J., 218
North Carolina State University, U.S.A.
- Shook, D.R., 244
University of Colorado, U.S.A.
- Shore, J.S., 463, 498, 721
York University, Canada
- Shoshani, J., 359
Wayne State University, U.S.A.
- Shultz, J.W., 28
University of Maryland, U.S.A.
- Shumate, A.M., 269
Dartmouth College, U.S.A.
- Shutler, D., 827
University of Western Ontario, Canada
- Sibajev, M., 513
Fiocruz, Brazil

- Siddall, M.E., 501
Virginia Institute of Marine Science, U.S.A.
- Silva, J.C., 625
University of Arizona, U.S.A.
- Simmons, G., 395
City University of New York, U.S.A.
- Simms, E.L., 169
University of Chicago, U.S.A.
- Simon, C., 648, 650
University of Connecticut, U.S.A.
- Simons, A.M., 317
Dalhousie University, Canada
- Singer, M., 763
University of Texas at Austin, U.S.A.
- Singh, N., 261
University of South Carolina, U.S.A.
- Singh, R.S., 262, 266
McMaster University, Canada
- Singleton, D.R., 130, 131
Memorial University, Canada
- Skibinski, D.O.F., 470
University College of Swansea, U.K.
- Skupski, M.P., 214
University of North Dakota, U.S.A.
- Slatkin, M., 539
University of California at Berkeley, U.S.A.
- Smith, C.M., 134
Simon Fraser University, Canada
- Smith, J.J., 578
Michigan State University, U.S.A.
- Smith, M.F., 846
University of California, U.S.A.
- Smith, M.H., 786, 821
Savannah River Ecology Laboratory, U.S.A.
- Smith, M.J., 597, 845
Simon Fraser University, Canada
- Smith, S.E., 229
University of North Carolina, U.S.A.
- Smith, T.B., 610
San Francisco State University, U.S.A.
- Smock, R., 219, 221
DePauw University, U.S.A.
- Smouse, P.E., 428, 832
Rutgers University, U.S.A.
- Smyth, A.P., 610
San Francisco State University, U.S.A.
- Snook, R., 412
Arizona State University at Tempe, U.S.A.
- Snow, A.A., 459, 822
Ohio State University, U.S.A.
- Sokolowski, M.B., 690
York University, Canada
- Solis, C., 60
Rice University, U.S.A.
- Soltis, D.E., 770
Washington State University, U.S.A.
- Soltis, P.S., 770
Washington State University, U.S.A.
- Soriano, M., 465
Universidad De Vigo, Spain
- Souza Chies, T.T., 499
Université de Paris XI, France
- Spaak, P., 744
Max-Planck-Institute for Limnology, Germany
- Spears, T., 143
Florida State University, U.S.A.
- Spencer, H.G., 30, 304
University of Otago, New Zealand
- Spicer, G., 464, 514, 648
Institute of Molecular Medical Sciences, U.S.A.
- Spitze, K., 377
University of Miami, U.S.A.
- Spradling, T.A., 198
Louisiana State University, U.S.A.
- Stacey, P.B., 785
University of Nevada, U.S.A.
- Stam, L., 382
Duke University, U.S.A.
- Stanhope, M., 67, 360
Queen's University, U.K.
- Stanley, S., 582
Cornell University, U.S.A.
- Starck, J.M., 414
Universität Tubingen, Germany
- Stauffer, J.R., 368, 472
Pennsylvania University, U.S.A.
- Stearns, S., 727
Zoology Institute, Switzerland
- Steel, M.A., 653
Canterbury University, N.Z.
- Stephan, W., 38, 249, 251
University of Maryland, U.S.A.
- Stephenson, A., 230
Pennsylvania State University, U.S.A.
- Stepien, C.A., 712
Case Western Reserve University, U.S.A.
- Steppan, S., 310
University of Chicago, U.S.A.
- Stern, D., 575
Cambridge University, U.K.
- Stewart, D., 191, 192, 588
Dalhousie University, Canada
- Stewart, S., 391
University of Guelph, Canada
- Stirling, D.G., 420
McGill University, Canada
- Stiven, A., 170
University of North Carolina, U.S.A.
- Stock, D., 196
Pennsylvania State University, U.S.A.
- Stockwell, C.A., 729, 750
University of Nevada, U.S.A.
- Stojkovic, O., 242, 243
Institute for Biological Research, Yugoslavia
- Stokes, N.A., 501
Virginia Institute of Marine Science, U.S.A.
- Stoltenberg, S.F., 56
University of Illinois, U.S.A.
- Stolz, U., 175
University of Notre-Dame, U.S.A.
- Stowe, K.A., 183
University of Missouri, U.S.A.
- Strassmann, J., 60, 58
Rice University, U.S.A.
- Strassmann, J.E., 59
Rice University, U.S.A.
- Stratton, D.A., 33, 171, 459
Princeton University, U.S.A.
- Streelman, J. T., 116
University of South Florida, U.S.A.
- Strumas, F., 800
University of Toronto, Canada
- Sullivan, G., 100
Binghamton University, U.S.A.
- Sullivan, J., 648, 650
University of Connecticut, U.S.A.
- Swanson, W.J., 637
Scripps Institute of Oceanography, U.S.A.
- Sweere, J.A., 769, 770
Smithsonian Institution, U.S.A.
- Swiderski, D., 416
University of Michigan at Ann Arbor, U.S.A.
- Swofford, D.L., 112, 113, 114
Smithsonian Institution, U.S.A.
- Taberlet, P., 627
Université J. Fourier, France
- Taggart, C., 370
Department of Fisheries and Oceans, Canada
- Tait, N., 678
Macquarie University, Australia
- Talbot, S.L., 529
University of Alaska at Fairbanks, U.S.A.
- Taliaferro, S.L., 226
University of Kansas, U.S.A.
- Tan, Y., 248
Yale University, U.S.A.
- Tanaka, Y., 217
McGill University, Canada
- Tanda, S., 249
University of Maryland, U.S.A.
- Taneyhill, D.E., 55
Université Paris-Sud XI, France
- Tatar, M., 619, 618
University of Minnesota, U.S.A.
- Tautz, D., 369
University of Munich, Germany
- Taylor, D.R., 829
University of Virginia, U.S.A.
- Taylor, D.S., 805
Brevard Mosquito Control District, U.S.A.
- Taylor, J.S., 399, 556
Simon Fraser University, Canada
- Taylor, J.W., 47, 95
University of California at Berkeley, U.S.A.
- Templeton, A.R., 434
Washington University, U.S.A.
- Tessier, A.J., 743
Michigan State University, U.S.A.
- Thakar, M.S., 734
University of South Carolina, U.S.A.
- Thebaud, C., 39
Imperial College, U.K.
- Theising, B.A., 494
Illinois State University at Normal, U.S.A.
- Thomas, G 583
Pennsylvania State University, U.S.A.
- Thomas, U.K., 846
University of Missouri, U.S.A.
- Thompson, C., 531
University of British Columbia, Canada
- Thompson, C.F., 494
Illinois State University at Normal, U.S.A.
- Thompson, D.B., 128
University of Nevada, U.S.A.
- Thompson, G.J., 495
University of Guelph, Canada
- Thompson Jr, J.N., 819
University of Oklahoma, U.S.A.
- Thorne, J.L., 585
North Carolina State University, U.S.A.
- Tilmon, K.J., 73, 74, 75
University of Delaware, U.S.A.
- Ting, C., 545
National Taiwan University, Republic of China
- Titus, T., 363
University of Oregon, U.S.A.
- Toal, K.R., 560
Southeastern Louisiana University, U.S.A.
- Toledo Filho, S.A., 479
Instituto De Biociencias, Brasil
- Tonsor, S., 702
University of Pittsburgh, U.S.A.
- Tower, J., 184
University of California at Irvine, U.S.A.
- Townsend, J., 475
Brown University, U.S.A.
- Tremblay, R.L., 684
University of Puerto Rico, U.S.A.
- Trexler, J., 423
Florida International University, U.S.A.
- Trexler, J.C., 13, 419
Florida International University, U.S.A.
- Trickett, A., 609
Leeds University, U.K.
- Tringali, M.D., 558
Florida Marine Research Institute, U.S.A.
- Triplett, J., 169
Cornell University, U.S.A.
- Tsaur, S., 545
North Carolina State University, U.S.A.
- Turelli, M., 31
University of California at Davis, U.S.A.
- Turner, B.J., 706, 805
Virginia Polytechnic Institute and State University, U.S.A.
- Turner, T., 423
Florida International University, U.S.A.
- Turner, T.F., 419
Florida International University, U.S.A.
- Tyler, G., 117
University of Connecticut, U.S.A.
- Urbanelli, S., 82
University of Rome, Italy
- Uyenoyama, M.K., 579
Duke University, U.S.A.
- Vacquier, V.D., 637
Scripps Institute of Oceanography, U.S.A.
- Vaglia, J.L., 623
James Madison University, U.S.A.
- Vail, C., 85
State University of New York at Cortland, U.S.A.
- Van Den Bussche, R.A., 821
Texas Technical University, U.S.A.
- Van Hinsberg, A., 622
Netherlands Institute of Ecology, The Netherlands
- Van Tienderen, P., 125
Netherlands Institute of Ecology, The Netherlands
- Van Voorhies, W., 620
University of Arizona, U.S.A.
- Vaupel, J.W., 616
Duke University, U.S.A.
- Vavrek, M.C., 614
West Virginia University, U.S.A.
- Verardi, A., 82
University of Rome, Italy
- Vercaemer, B.M., 227
Dalhousie University, Canada
- Vermeij, G. J., 446
University of California at Davis, U.S.A.
- Vess, T.J., 63
James Madison University, U.S.A.
- Via, S., 68
Cornell University, U.S.A.
- Vicidomini, S., 490
University of Naples, Italy
- Viesling, E., 589
University of Arizona, U.S.A.
- Vilgalys, R., 602
Duke University, U.S.A.

- Villablanca, F.X., 15, 710
University of Hawaii, U.S.A.
- Villinski, J.T., 828
University of Houston, U.S.A.
- Vitale, A.V., 540
University of Georgia, U.S.A.
- Vitt, P., 139
University of Connecticut, U.S.A.
- Vogler, A., 398
The Natural History Museum, U.K.
- Vogler, D., 230
Pennsylvania State University, U.S.A.
- von Dohlen, C.D., 152
University of Arizona, U.S.A.
- Vossbrink, R.E., 129
Northern Arizona University, U.S.A.
- Vrijenhoek, R.C., 142, 190, 557, 596, 677, 837
Rutgers University, U.S.A.
- Vuorinen, J.A., 686
University of Joensuu, Finland
- Waddell, P.J., 112, 113
Massey University, U.S.A.
- Wade, M.J., 78
University of Texas, U.S.A.
- Wake, D.B., 157
University of California at Berkeley, U.S.A.
- Wake, M.H., 26
University of California at Berkeley, U.S.A.
- Waldman, B., 64
University of Canterbury, New Zealand
- Walker, D., 782
University of Western Australia, Australia
- Walker, J., 289
State University of New York at Stony Brook, U.S.A.
- Waller, D.M., 122, 167
University of Wisconsin, U.S.A.
- Wallman, J., 341
The Harry Frank Guggenheim Foundation, U.S.A.
- Walsh, P.J., 552
University of Miami, U.S.A.
- Walton, A.H., 354
Texas A&M University, U.S.A.
- Wang, H., 161
Wayne State University, U.S.A.
- Wang, R., 840
Rutgers University, U.S.A.
- Wang, S., 642
University of Ottawa, Canada
- Waples, R.S., 11
NW Fisheries Science Center, U.S.A.
- Ward, S., 621
University of Puerto Rico, U.S.A.
- Wardle, G., 683
University of Chicago, U.S.A.
- Waters, E.R., 194, 589
University of Arizona, U.S.A.
- Waterway, M., 126
McGill University, Canada
- Watkins, G., 65
University of Pennsylvania, U.S.A.
- Watson, G.F., 71
University of Melbourne, Australia
- Waycott, M., 773, 782
University of Western Australia, Australia
- Wayne, M.L., 383
North Carolina State University, U.S.A.
- Webb, D.M., 519
Wayne State University, U.S.A.
- Weeks, S.C., 729
University of Akron, U.S.A.
- Weider, L.J., 658
Max-Planck-Institut Fur Limnologie, Germany
- Weigensberg, I., 313
McGill University, Canada
- Weir, B., 218
North Carolina State University, U.S.A.
- Weir, B.S., 276, 705
North Carolina State University, U.S.A.
- Welch, D., 97
Harvard University, U.S.A.
- Wells, M.M., 500
University of Connecticut, U.S.A.
- Wendel, J.F., 155
Iowa State University, U.S.A.
- Wenger, R., 159
University of Berne, Switzerland
- Wenne, R., 470
Marine Biology Center, Poland
- Wenzel, J., 401
Ohio State University, U.S.A.
- Wernegreen, J., 234
Yale University U.S.A.
- Westneat, M., 408
Field Museum, U.S.A.
- Wetterstrand, K., 466
Cornell University, U.S.A.
- White, T.J., 95
Roche Molecular Systems, U.S.A.
- Whiteman, H., 135
Savannah River Ecology Laboratory, U.S.A.
- Whitlock, M., 778
University of British Columbia, Canada
- Whitt, G., 196
University of Illinois, U.S.A.
- Wichman, H.A., 282, 284, 285, 628
University of Idaho, U.S.A.
- Wiegmann, B., 379
North Carolina State University, U.S.A.
- Wiens, J.J., 107, 297
Carnegie Museum of Natural History, U.S.A.
- Wiggins, L.E., 821
Texas Technical University, U.S.A.
- Wilcox, T., 767
University of Houston, U.S.A.
- Wilkinson, H., 718
State University of New York at Binghamton, U.S.A.
- Willett, C.S., 543
Cornell University, U.S.A.
- Williams, B.A., 347
Southern Cross University, Australia
- Williams, K.D., 690
York University, Canada
- Williams, S., 820
McHarry Medical College, U.S.A.
- Williams Jr., J.H., 88
University of Georgia, U.S.A.
- Williamson, E., 483
Texas A&M University, U.S.A.
- Willis, J.H., 388, 698
University of Oregon, U.S.A.
- Wilson, C.C., 372, 478
Australian National University, Australia
- Wilson, D.S., 70, 624
State University of New York at Binghamton, U.S.A.
- Wimberger, P.H., 367, 652
University of Puget Sound, U.S.A.
- Winchell, R., 737
University of California at Davis, U.S.A.
- Winterer, J., 168
University of Washington, U.S.A.
- Wlazlo, B., 328, 329
Michigan State University, U.S.A.
- Wolfe, A.D., 46, 43
Vanderbilt University, U.S.A.
- Wollenberg, K., 669
University of Georgia, U.S.A.
- Wood, T.K., 74, 73, 75
University of Toronto, U.S.A.
- Woodruff, R.C., 207, 239, 253, 283, 644, 819
Bowling Green State University, U.S.A.
- Worley, A.C., 617
University of Toronto, Canada
- Worobey, M., 576
Simon Fraser University, Canada
- Wray, G., 193
State University of New York at Stony Brook, U.S.A.
- Wright, A.J., 821
Texas Technical University, U.S.A.
- Wu, C., 326
University of Chicago, U.S.A.
- Wu, L., 480
The Ohio State University, U.S.A.
- Wu, W., 456
State University of New York at Stony Brook, U.S.A.
- Wyngaard, G.A., 791
James Madison University, U.S.A.
- Xia, X., 581
Louisiana State University, U.S.A.
- Yamato, J., 7
University of Washington, U.S.A.
- Yanchuk, A.D., 601
British Columbia Ministry of Forests, Canada
- Yang, H., 359
Wayne State University, U.S.A.
- Yang, R., 209, 599, 601
University of Alberta, Canada
- Yang, Z., 102
State College Pennsylvania, U.S.A.
- Yanofsky, M., 44
University of California at San Diego, U.S.A.
- Yeh, F.C., 209, 599, 601
University of Alberta, Canada
- Yoshida, E., 642
University of Ottawa, Canada
- Yoshimura, J., 336
Imperial College at Silwood Park, U.K.
- Young, C., 723
University of Guam, U.S.A.
- Young, D., 260
Yale University, U.S.A.
- Young, J.R., 213
Hampden-Sydney College, U.S.A.
- Young, N.D., 43, 46
Vanderbilt University, U.S.A.
- Zamer, W.E., 418
Lake Forest College, U.S.A.
- Zamudio, K., 298
University of Washington, U.S.A.
- Zandee, R., 5
University of Leiden, The Netherlands
- Zardoya, R., 555
The University of New York at Stony Brook, U.S.A.
- Zardoya, R., 563, 847
State University of New York, U.S.A.
- Zehnder, M., 534
University of Neuchatel, Switzerland
- Zehr, S., 352
Harvard University, U.S.A.
- Zelenka, D.J., 711
Tyson Foods Inc., U.S.A.
- Zeng, Z-B 755
North Carolina State University, U.S.A.
- Zeng, Z-B., 276
North Carolina State University, U.S.A.
- Zera, A., 319
University of Nebraska, U.S.A.
- Zeyl, C., 630
McGill University, Canada
- Zhang, L., 477
University of Chicago, U.S.A.
- Zharkikh, A., 111
The University of Texas at Houston, U.S.A.
- Zimmer, E.A., 770
Smithsonian Institution, U.S.A.
- Zouros, E., 191, 192, 588
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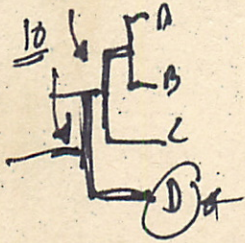
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± error / replication fork

all DNA processes

- replication
- recombination
- transcription
- transposition
- repair
- degradation
- topoisomerization



why constant mutation rate/genome?

- Ⓐ selection
- Ⓑ

Charles

100x

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

if nucleotide/genome \propto anything else then that might drive process

so what is nucl/genome correlated with

- speed?
- # of forks?
- genes

