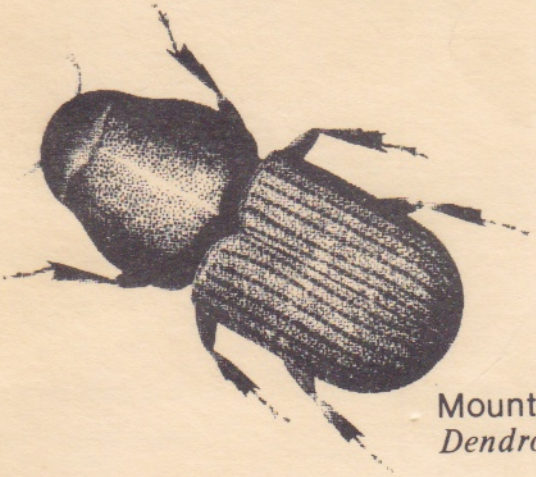
Society for the Study of Evolution

and

American Society of Naturalists

Annual Meeting



Mountain Pine Beetle
Dendroctonus ponderosae

State University of New York at Stony Brook
Stony Brook, New York
June 21-24, 1982

SCHEDULE OF EVENTS

SUNDAY, JUNE 20		
Registration	3:00-9:00 p.m.	Roth Quad
Mixer	3:00-9:00 p.m.	Roth Cafeteria
SSE Council Meeting	8:00 p.m.	Graduate Biology 650
MONDAY, JUNE 21		
Registration	8:30 a.m.-12:00 noon	Lecture Hall Center
Symposium: Coevolution	8:30 a.m.-12:00 noon	Lecture Hall Center 100
SSE Business Meeting	12:00 noon-1:00 p.m.	Roth Cafeteria
Contributed Paper Sessions	1:00 p.m.-5:20 p.m.	
Evolution		Lecture Hall Center 106
Genetic Variability		Lecture Hall Center 110
Geographic Variation		Lecture Hall Center 102
Gene Flow		Lecture Hall Center 103
Host-Parasite Interactions		Graduate Biology 038
Life-History Variation		Lecture Hall Center 109
SSE Banquet	7:00 p.m.	Stony Brook Union Ballroom
Presidential Address: Species Again, the Green Kind by Otto Solbrig, Harvard University		
TUESDAY, June 22		
Symposium: Evolutionary Controversies, Within and Without	8:30 a.m.-12:00 noon	Lecture Hall Center 100
ASN Business Meeting	12:00 noon-1:00 p.m.	Roth Cafeteria
Contributed Paper Sessions	1:00-5:00 p.m.	
Sex		Graduate Biology 038
Enzyme Kinetics		Lecture Hall Center 103
Morphological Variation		Lecture Hall Center 106
Mitochondrial DNA, Transposable Elements		Lecture Hall Center 110
Phylogeny and Evolutionary Rates		Lecture Hall Center 102

ASN Presidential Address What Are the Real Problems With Evolutionary Theory? by Richard C. Lewontin, Harvard University.	5:00-6:15 p.m.	Lecture Hall Center 100
Cookout	7:00 p.m.	Roth Pond (Clear Weather) Roth Cafeteria (Rain)

WEDNESDAY, JUNE 23

Contributed Paper Sessions	8:10 a.m.-12:00 noon	
Evolutionary Theory		Lecture Hall Center 110
Growth Rates, Chromosomes		Graduate Biology 038
Plant Demography		Lecture Hall Center 102
Adaptive Plant Variation		Lecture Hall Center 106
Gene Families, Amino Acid Sequences		Lecture Hall Center 101
DNA Heterogeneity		Lecture Hall Center 109
Lunch	12:00 noon-1 p.m.	Roth Cafeteria
Symposium: Molecular Evolution of DNA and Proteins	1:00-5:00 p.m.	Lecture Hall Center 100
Workshop: Opportunities for Evolutionary Research in Agricultural Systems	7:00 p.m.	Graduate Biology 054

THURSDAY, JUNE 24

Symposium: Polymorphisms of DNA and Proteins	8:30 a.m.-12:30 p.m.	Lecture Hall Center 100
Lunch	12:00 noon-1:00 p.m.	Roth Cafeteria
Symposium: Implications of Molecular Evolution	1:30-4:45 p.m.	Lecture Hall Center 100

Monday Morning, June 21

Symposium	Coevolution	Lecture Hall Center 100
8:30 a.m.	Montgomery Slatkin, University of Washington. Models of Coevolution	
9:15 a.m.	Paul Feeny, Cornell University. The Role of Chemistry in Coevolution Between Plants and Herbivorous Insects	
10:00 a.m.	Coffee	
10:30 a.m.	Charles Mitter, University of Maryland. Phylogenetic Aspects of Coevolution	
11:15 a.m.	Douglas Futuyma, State University of New York at Stony Brook. Unresolved Issues in Coevolution	
12:00	SSE Business Meeting	Roth Cafeteria
1:00-5:20 p.m.	Contributed Papers	

Conference Hosts

Committee Chairpersons: D.J. Futuyma, R.K. Koehn, M.A. Bell, F.J. Rohlf, H. Ginsberg, W.F. Eanes, R.E. Smolker, R.A. Armstrong

Committee Members: D. Gerhart, P. Klerks, I. Kroot, M. McKenna, R. Monahan, J. Rost, R.C. Sargent, R.W. Setzer, E. Van Voorhees, D. Wartenburg

Monday Afternoon — Lecture Hall Center 106

Session Title: Evolution — Session Leader: I. Kornfield

1:00 Schneiderman, E.M. State University of New York at Purchase. Evolutionary ecology of lichens.

1:20 Vuilleumier, F. American Museum of Natural History. Niche shifts during speciation in South American birds.

1:40 Mears, J.A. Academy of Natural Sciences. Origin of Alternanthera (Amaranthaceae) of the Galapagos.

2:00 Pirlot, P. Universite de Montreal. Quantitative organization and evolution of the marsupial brain.

2:20 Evander, R.L. Columbia University. A paleontological study of the base of an evolutionary radiation.

2:40 Nadeau, J.H. The Jackson Laboratory. Organization and evolution of the mammalian genome: the probabilities of autosomal linkage homology.

3:00 Break

3:20 Murphy, S.K. (Marshall). University of Rochester. Competition for shelter space among closely and distantly related taxa of cryptozoa.

3:40 McCauley, D.E. Vanderbilt University. Measuring some opportunities for natural and sexual selection in populations of milkweed beetles.

4:00 Boyer, J.F. Union College. Genetic consequences of interference behavior in age-structured populations.

4:20 Kornfield, I. and K.E. Carpenter. University of Maine. Endemic fishes of Lake Lanao: evolutionary assessment and prognosis.

4:40 Williams, F.M. Pennsylvania State University. Evenness without diversity.

5:00 Rosen, E.A. Theistic evolution, a compromise.

Monday Afternoon — Lecture Hall Center 110

Session Title: Genetic Variability — Session Leader: D. Graur

1:00 Collier, G.E. Illinois State University. Evolution of arginine kinase within the genus Drosophila.

1:20 Eisses, K. Th. Laboratorium voor Populatie en Evolutiebiologie. Different ways of ethanol-detoxification adapted in two sibling species of Drosophila melanogaster based on the dual function of ADH.

1:40 Rowan, R.G. University of Utah. Adaptive regulation of the ADH locus.

2:00 Yannoni, C.Z. and W.H. Petri. Boston College. Survey of D. melanogastes eggshell protein polymorphism using isoelectric-focusing gels.

2:20 Shaw, R.G. Duke University. Genetic and phenotypic variation in response to density in Salvia lyrata (Lamiaceae).

2:40 Sbordoni, V., G. Cesaroni, G. Allegrucci and C. Rossi. Viala Universita. Genetic variability and population size in isolated populations of cave crickets: a test of the neutral hypothesis of molecular evolution.

3:00 Break

3:20 Phillis, R.W. Indiana University. In vivo substrate for esterase-6 in Drosophila melanogaster.

3:40 Tepper, C.S., R.W. Phillis and R.C. Richmond. Indiana University. The modification of esterase-6 activity by unlinked genes.

4:00 Arnason, E. Harvard University and University of Iceland. Perturbation studies of esterase-5 in Drosophila pseudoobscura.

4:20 Keith, T. Harvard University. Genetic variation of esterase-5 in two large populations of Drosophila pseudoobscura.

4:40 Graur, D. University of Texas Health Science Center. Relationship between gene diversity and population size.

5:00 Campbell, R.B. Purdue University. Neutral drift and punctuated equilibria.

Monday Afternoon — Lecture Hall Center 102

Session Title: Geographic Variation — Session Leader: P. Smouse

1:00 Shaklee, J.B. C.S.I.R.O. Fisheries Research. Speciation and evolution of Indo-West Pacific bonefishes: zoogeographic patterns of biochemical and morphological differentiation.

1:20 White, M.M. and B.J. Turner. Virginia Polytechnic Institute. Microgeographic differentiation in lake and river populations of Goodea atripinnis.

1:40 Buroker, N.E. Rutgers University. Population genetic studies of the American oyster, Crassostrea virginica (Gmelin), along the Atlantic coast and Gulf of Mexico.

2:00 Cole, T.J. Horn Point Environmental Labs. Population differentiation of Atlantic Coast blue crabs (Callinectes sapidus).

2:20 Mitton, J.B. and B.A. Pierce. University of Colorado and Connecticut College. Genetic differentiation and genetic organization in the tiger salamander.

2:40 Etges, W.J. University of Rochester. Inversion frequency dynamics along the Smoky Mountain cline in Drosophila robusta.

3:00 Break

3:20 Davis, M.L. University of Michigan at Flint. Spatial patterns of genetic variation in successional stands of Douglas-fir.

3:40 Florence, L.Z. University of Alberta. Genetic differentiation along microhabitats in loblolly pine.

4:00 Innes, D.J. State University of New York at Stony Brook. Microgeographic variation in the asexual reproducing alga Enteromorpha lenza.

4:20 Smouse, P.E., W. Liu, and J.V. Neel. University of Michigan. Multiple-locus departures from panmictic equilibrium within Amerindian village gene pools.

4:40 Mueller, L.D. Stanford University. The "sexy son" hypothesis: a population genetic model.

5:00 Golenberg, E.M. State University of New York at Stony Brook. Spatial distribution of multilocus genotypes in Triticum dicoccoides, Wild Emmer wheat.

Monday Afternoon — Lecture Hall Center 103

Session Title: Gene Flow — Session Leader: S. Handel

1:00 Schaeffer, S.W., E.C. Keller, Jr., and N.E. Buroker. University of Georgia, West Virginia University, Rutgers University. Gene flow in the pulmonate snail, Melampus bidentatus.

1:20 Colwell, R.K. University of California at Berkeley. Sex-biased dispersal in structured populations: Model and data.

1:40 Hastings, A. University of California at Davis. Evolution of dispersal rates in spatially varying environments.

2:00 Stephens, J.C., M.E. Turner, and W.W. Anderson. University of Georgia. Genetic ramifications of a model of nearest-neighbor pollination.

2:20 Watkins, L. Jr. University of Texas at Austin. Density-dependent outcrossing in Phlox drummondii: an experimental approach.

2:40 Knowles, P. Lakehead University. One gene/two allele inheritance of cone serotiny: Evidence from a seed tree regeneration site.

3:00 Break

3:20 Snyder, T.P., D.A. Stewart, and A.F. Strickler. Michigan Technological University. Breeding structure and seed survial in Pinus banksiana.

3:40 Lacey, E. University of North Carolina. The effects of flowering and seed dispersal on fitness.

4:00 Handel, S.N. Yale University. Contrasting gene flow patterns between two experimental plant populations.

4:20 Harshman, L. State University of New York at Stony Brook. Population genetic consequences of the mode of reproduction in Alsophila pometaria.

4:40 Esteal, S. Australian National University. The effective size of introduced populations of Bufo marinus.

5:00 Alexander, H. Duke University. Phenotypic and genotypic variation in fungal infection in Plantago lanceolata.

Monday Afternoon — Graduate Biology 038

Session Title: Host-Parasite Interactions — Session Leader: M. Rossiter

1:00 Via, S. Duke University. Genetic covariance of female host plant preference and larval performance in an insect herbivore.

1:20 Gould, F. North Carolina State University. Adaptation and cross-adaptation of an herbivore to secondary plant compounds.

1:40 Messina, F. Boyce Thompson Institute for Plant Research. Ontogenetic and interspecific variation in host preference of two goldenrod beetles.

2:00 Service, P. University of North Carolina. Genotypic interactions in an aphid-host plant relationship.

2:20 Grimwaldi, D. and J. Jaenike. State University of New York at Binghamton. Genetic variation for host preference in Drosophila.

2:40 Goldwasser, L. University of California at Berkeley. Mutualism: what restrains it, what promotes it.

3:00 Break

3:20 Mock, B.A. University of Maryland. The influence of host age structure on parasite populations.

3:40 Stewart, S.C. and E. Evans. University of Georgia. Ecological genetics of larvae using several ephemeral resources in a natural population of Drosophila melanogaster.

4:00 Rossiter, M. University of Texas. Selection for alternate host use by the gypsy moth: the effects of parasites, humans, and pathogens.

4:20 Jaenike, J. and D.A. Grimwaldi. State University of New York at Binghamton. Alpha-amanitin tolerance in mycophagous Drosophila.

4:40 Mark, G. Cornell University. Houseflies selected for resistance to the parasitic wasp Nasonia vipripennis.

Monday Afternoon — Lecture Hall Center 109

Session Title: Life history variation — Session Leader: J. Collins

1:00 Allan, J.D. University of Maryland. Life history variation in a freshwater copepod: evidence from population crosses.

1:20 Wyngaard, G.A. University of Maryland. Heritable life history variation in copepod populations.

1:40 Soltz, D.A. and M.F. Hirshfield. California State University and Benedict Estuarine Laboratory. Genetic differentiation of life history traits in two populations of Amargosa pupfish, Cyprinodon nevadensis.

2:00 Travis, J. Florida State University. Ecological genetics of development patterns in larval anurans: sibship environment interactions.

2:20 Taylor, F. University of New Mexico. A theoretical analysis of the fitness function associated with diapause induction in insects.

2:40 Collins, J.P. Arizona State University. Effect of food and density on development of typical and cannibalistic salamander larvae in Ambystoma tigrinum nebulosum.

3:00 Break

3:20 Godt, M.J. and M.H. Smith. Savannah River Ecology Laboratory. Differences in fecundity and body size relationships in mosquitofish (Gambusia affinis) from ambient and thermally stressed environments.

3:40 Polivanov, S. Catholic University of America. Predation on adult stage of North American papilionids.

4:00 Sargent, R.C. State University of New York at Stony Brook. On the evolution of parental care in fishes with external fertilization.

Tuesday Morning, June 22

Symposium	Evolutionary Controversies, Within and Without	Lecture Hall Center 100
8:30 a.m.	William B. Provine, Cornell University. The Evolutionary Synthesis Viewed Through One Controversy: The Interpretation of Panaxia dominula.	
9:15 a.m.	Garland E. Allen, Washington University. The Faces of Darwin: Materialism in Nineteenth and Twentieth Century Evolution Theory	
10:00 a.m.	Break	
10:30	Thomas Jukes, University of California at Berkeley. Equal Time for Nonsense: The Creationist's Attack on Science (Dr. Jukes' talk will be followed by an open discussion)	
12:00	ASN Business Meeting	Roth Cafeteria
1:00-5:00 p.m.	Contributed Papers	

Tuesday Afternoon — Graduate Biology 038

Session Title: Sex — Session Leader: W. Anderson

1:00	Cohen, J.A. and C.S. Hieber. University of Florida. Sexual selection in the lovebug, Plecia nearctica: the role of male choice.
1:20	Boake, C.R.B. University of Chicago. Sexual selection and communication in a gregarious cricket.
1:40	Skinner, S.W. University of Utah. Field studies on the sex ratio and brood size in the wasp, Nasonia vitripennis.
2:00	Wu, C. and A.T. Beckenbach. University of British Columbia and Simon Fraser University. The sex-ratio phenomenon in Drosophila: on the evolution of supergenes.
2:20	Turner, M.E. University of Georgia. Sperm competition in Drosophila pseudoobscura.
2:40	Elbin, M.E. Bowling Green State University. Sperm wars: studies on the mechanism of sperm predominance.
3:00	Break
3:20	Gromko, M.H. Bowling Green State University. Parsimony and sperm competition: a consideration of sperm death in Drosophila melanogaster
3:40	Gross, M.R. Simon Fraser University. Frequency-dependent mating advantage in bluegill sunfish: evidence for a mixed ESS of cuckoldry and parental care.
4:00	Anderson, W.W. and C.J. Brown. University of Georgia. An independent test for rare male mating advantage in Drosophila pseudoobscura.
4:20	Brett, B.L.H. and U. Nur. University of Rochester. Biased and unbiased primary sex ratios in mealy bugs.
4:40	Nur, U. and B.L.H. Brett. University of Rochester. Sex ratios in mealy bugs: adaptive significance of shifts following shortage of males.

Tuesday Afternoon — Lecture Hall Center 103

Session Title: Enzyme Kinetics — Session Leader: W. Eanes

1:00 White, H.B. III. University of Delaware. Comparative "morphology" of coenzymes and the origin of enzymes.

1:20 Sampsell, B. Chicago State University. Effects of environmental temperature on ADH levels in D. melanogaster.

1:40 Powers, D.A., J. Di Michele, and I. Gonzalez-Villasenor. Johns Hopkins University. Genotype specific differences in the metabolism of Fundulus heteroclitus.

2:00 Van Beneden, R., and D.A. Powers. Johns Hopkins University. Glucose phosphate isomerase from the fish, Fundulus heteroclitus: kinetic analyses of the isozymes and allozymes in relation to temperature and pH.

2:20 Di Michele, L. and D.A. Powers. Johns Hopkins University. Physiological basis for swimming endurance differences between LDH-B genotypes of Fundulus heterochitus.

2:40 Hilbish, T., L. Deaton, and R.K. Koehn. State University of New York at Stony Brook. Allozyme polymorphism and the regulation of cell volume: the effects of aminopeptidase I.

3:00 Break

3:20 Hiraizumi, K. and C. Laurie-Ahlberg. North Carolina State University. Diallel analysis of dipeptidase activity in Drosophila melanogaster.

3:40 Migashita, N. and C. Laurie-Ahlberg. North Carolina State University. Quantitative analysis of autosomal factors affecting the activities of glucose-6-phosphate and 6-phosphogluconate dehydrogenases in Drosophila melanogaster.

4:00 Eanes, W.F. State University of New York at Stony Brook. Viability interaction and in vitro function at the glucose 6 phosphate dehydrogenase locus in Drosophila melanogaster.

4:20 Dykhuizen, D. Washington University Medical School. Chemostat studies of selection involving electrophoretic variants of G6PD in Escherichia coli.

4:40 Liu, E.H. and M.H. Smith. Savannah River Ecology Laboratory. MDH alleles with different thermal stabilities in largemouth bass populations from heat stressed and ambient ponds.

Tuesday Afternoon — Lecture Hall Center 106

Session Title: Morphological Variation — Session Leader: W. Atchley

1:00 Leamy, L. California State University. Static phenotypic, genetic, and environmental allometry of morphometric traits in inbred and hybrid house mice.

1:20 Archie, J. University of Hawaii. Curvilinearity in allometry: the evolution of statistical artifacts.

1:40 Zera, A.J. State University of New York at Stony Brook. Genetic structure of the wing polymorphic waterstrider Limnoporus canaliculatus.

2:00 Angus, R. and J.M. Brubaker. University of Alabama in Birmingham. Meristic variation and asymmetry in fish populations from stressed and nonstressed environments.

2:20 Baumgartner, J.V. State University of New York at Stony Brook. Clinal variation and lateral plate morphs in California stream populations of the threespine stickleback, Gasterosteus aculeatus.

2:40 Crowe, T.M. American Museum of Natural History. Evolution of the introduced house sparrows (Passer domesticus) in Southern Africa.

3:00 Break

3:20 Schenck, R.A., R.C. Vrijenhoek, and M.E. Douglas. Rutgers University. Trophic differentiation among sexual and unisexual fishes of the genus Poeciliopsis.

3:40 Grudzien, T.A. Virginia Polytechnic Institute. Trophic polymorphism and genetic differentiation in a Mexican stream-dwelling fish.

4:00 Douglas, M.E. and R.C. Vrijenhoek. Rutgers University. Electrophoretic and morphological variability in Poeciliopsis occidentalis.

4:20 Atchley, W.R. and L. Leamy. University of Wisconsin and California State University. Brain and body size correlations: a quantitative genetic analysis.

4:40 Bell, M.A. State University of New York at Stony Brook. Short term variation in fossil sticklebacks: bridging the gap between population genetics and paleobiology.

Tuesday Afternoon — Lecture Hall Center 110

Session Title: Mitochondrial DNA, Transposable elements — Session Leader: M. Kidwell

1:00 Birky, C.W. Jr. and T. Maruyama and P.A. Fuerst. Ohio State University. Population genetic theory for genes in mitochondria and chloroplasts.

1:20 Jameson, D., C. Smith, L. Dove, M. Klauss and V. Beshkov. University of Houston and Bulgaria Academy of Science. Mitochondrial DNA of hybrid Bombina bombina x B. variegata.

1:40 Ferris, S. Stanford University School of Medicine. Flow of mitochondrial DNA across a hybrid zone.

2:00 Asmussen, M.A. University of Georgia. Use of restriction fragment length polymorphisms as genetic markers: theoretical considerations.

2:20 Tracey, M. and M. McLean. Florida International University. Mitochondrial DNA heterogeneity in the spiny lobster.

2:40 Aquadro, C.F. and B.D. Greenberg. National Institute of Environmental Health Science and Stanford University. Human mitochondrial DNA sequence variation and evolution.

3:00 Break

3:20 Hechtel, S.C. and W.M. Brown. University of Michigan. Polymorphism of mitochondrial DNA within single individuals of Strongylocentrus purpuratus.

3:40 Kidwell, M. Brown University. Hybrid dysgenesis in Drosophila melanogaster: evolution of the P family of transposable elements.

4:00 Brookfield, J.F.Y., C.H. Langley, N. Kaplan and E. Montgomery. National Institute of Environmental Health Science. Transposable elements in a wild population.

4:20 Chao, L. Northwestern University. Selection for transposable elements in Escherichia coli

4:40 Cann, R. University of California at Berkeley. Human evolution and mitochondrial DNA: high resolution mapping reveals extensive migration over the erectus to sapiens transition.

Tuesday Afternoon — Lecture Hall Center 102

Session Title: Phylogeny and Evolutionary Rates — Session Leader: C. Sibley

1:00 Gojobori, T., W. Li, and M. Nei. University of Texas at Houston. Evolutionary rates of mammalian mitochondrial genes.

1:20 Reynales, T.E. University of California at Santa Barbara. GENCODE: a nucleic acid simulator with eccentric rates of substitution.

1:40 Helm-Bychowski, K.M. University of California at Berkeley. Relative rates of nuclear and mitochondrial DNA evolution in birds.

2:00 Scott, A.F. Johns-Hopkins University. The nature and rate of genomic evolution based on comparison of homologous DNA sequences from man and gorilla.

2:20 Hixson, J. University of Michigan. Nucleotide sequence comparison of mitochondrial DNA in higher primates.

2:40 George, M. Jr. San Diego Zoo. Mitochondrial DNA evolution in the genus Equus.

3:00 Break

3:20 Walker, W.F. Dalhousie University. The phylogenetic history of fungi and related organisms according to 5S rRNA sequence data.

3:40 Doolittle, W.F. Dalhousie University. Genome plasticity in archebacteria.

4:00 Sibley, C.G. Yale University. Clustering, branching, and time: the elements of phylogeny determined by DNA-DNA hybridization.

4:20 Zimmer, E.A. Stanford University. Ribosomal gene variation within and between species of corn and its ancestors.

4:40 Jorgensen, R. University of California at Davis. Novel evolutionary variation in the structure and transcription of the chloroplast genomes of legumes.

Wednesday Morning, June 23, Contributed Papers

Wednesday Morning — Lecture Hall Center 110

Session Title: Evolutionary Theory — Session Leader: J. Felsenstein

8:10 Williams, M.B. University of Delaware. What is evolutionary theory about? A different view on units of selection.

8:30 Diehl, S.R. University of Texas. Sympatric speciation in Rhagoletis (Diptera: Tephritidae).

8:50 Wade, M.J. University of Chicago. The influence of population on individual fitness.

9:10 Emigh, T.H. and A.E. Antlfinger. North Carolina State University and University of Nebraska at Omaha. Uses of the biplot with evolutionary and genetic data.

9:30 Chakraborty, R. University of Texas Health Science Center. The rate of accumulation of variability in polygenic traits in natural populations.

9:50 Levinton, J.S. and D.J. Lonsdale. State University of New York at Stony Brook. Latitude, physiological differentiation, and a possible mechanism of clinal speciation.

10:10 Break

10:30 Giles, B. Ottawa Research Station, Agriculture Canada. How does population variation affect taxonomic separation?

10:50 Felsenstein, J. University of Washington. Inferring phylogenies from distances: a justification.

11:10 Thomas, W. University of California at Davis. Phenotypic models for the maintenance of sex.

11:30 Nyberg, D. University of Illinois at Chicago. The fitness consequences of sex and recombination: an experimental study.

Wednesday Morning — Graduate Biology 038

Session Title: Growth Rates, Chromosomes — Session Leader: B. Turner

8:30 Creighton, G.K. University of Michigan. Consequences of differential growth rates on estimating genetic correlation among morphological features of mammals.

8:50 Richter, W. University of Iowa. Balanced sex ratios in size dimorphic altricial birds: the contribution of sex specific growth dynamics.

9:10 Cheverud, J.M. Northwestern University. A qualitative genetic approach to the evolution of phenotypes influenced by maternal effects.

9:30 Barnes, P.T. North Carolina State University. A maternal effect influencing larval viability in Drosophila melanogaster and its importance in the measurement of fitness.

9:50 Saks, M.E. State University of New York at Stony Brook. Differentiation of growth characters between native and introduced populations of the Mexican bean beetle, Epilachna varivestis: Possible implications of resource predictability.

10:10 Break

10:30 Turner, B.J. and K. Adkisson. Virginia Polytechnic Institute and State University. A "step cline" of metacentric chromosomes in fishes from a single river system: "Karyotypic orthoselection" at the population level.

10:50 Shields, G.F. and W.S. Procunier. Institute of Arctic Biology. A cytological descripton of sibling species of Simulium articum Malloch (Diptera: Simuliidae).

11:10 Blake, J.A. Harvard University. Complex chromosome variation in the Jamaican lizard Anolis grahami.

11:30 Holsinger, K. Stanford University. The evolution of recombination in permanent translocation heterozygotes.

Wednesday Morning — Lecture Hall Center 102

Session Title: Plant Demography — Session Leader: A. E. Antlfinger

8:10 Schlichting, C. University of Texas at Austin. Phenotypic plasticity of annual Phlox species.

8:30 Schmidt, K.P. and D.A. Levin. University of Texas at Austin. Comparative demography of hybrid and varietal populations in a zone of secondary intergradation in Phlox drummondii.

8:50 Levin, D.A. University of Texas at Austin. Character displacement in Phlox.

9:10 Lechowicz, M.J. McGill University. Does maximizing photosynthetic capacity maximize fitness in Xanthium strumarium (Compositae)?

9:30 Bierzychudek, P. Pomona College. The evolution of sex-changing by jack-in-the-pulpit, a forest herb.

9:50 Policansky, D. Harvard University. Comparison of sex changing and non-sex changing perennial herbs.

10:10 Break

10:30 Jasieniuk, M. McGill University. The reproductive success of chasmogamous and cleistogamous flowers of Oxalis montana.

10:50 Antlfinger, A.E. University of Nebraska at Omaha. Field germination of selfed and outcrossed seeds of Impatiens capensis.

11:10 Buckley, D. Ohio University. The structural demography of clonal growth in an expanding sporophytic genet of Onoclea sensibilis L.

11:30 Cook, R.E. Cornell University. Clone demography in a woodland violet.

Wednesday Morning — Lecture Hall Center 106

Session Title: Adaptive Plant Variation — Session Leader: T. Givnish

8:10 Robichaux, R. University of California at Berkeley. Variation in water relations among species in the Hawaiian silversword alliance (Compositae).

8:30 Chazdon, R.L. Cornell University. Paedomorphosis in rain forest understory palms: relevance to shade adaptation.

8:50 Givinish, T.J. Harvard University. On the adaptive significance of leaf height in forest herbs: a game theoretic model.

9:10 Meiss, M.M. State University of New York at Stony Brook. Adaptive aspects of tree crown geometry.

9:30 Newell, S.J. and D.T. Webb. University of Puerto Rico. Density, plant size, and reproduction in a natural population of cycads (Zamia pumila L.).

9:50 Kareiva. P. Brown University. Plant dispersion and escape from searching herbivores: a comparison of tactics.

10:10 Break

10:30 Stiles, E.W. Rutgers University. Fruit flags: two hypotheses.

10:50 White, D.W. and E.W. Stiles. Rutgers University. The evolution of nutritional rewards in bird-disseminated fruits of the temperate zone: a test of two models.

11:10 Janson, C.H. University of Washington. Things aren't always black and white -- the coevolution of fruit characteristics and dispersers.

11:30 Brauner, S. and L.D. Gottlieb. University of California at Davis. The genetics and evolution of quantitative characters in an annual plant species and its progenitor.

Wednesday Morning — Lecture Hall Center 101

Session Title: Gene families, amino acid sequences — Session Leader: M. Dayhoff

8:10 Sederoff, R. North Carolina State University. The evolution of maize mitochondrial DNA.

8:30 Villa-Komaroff, L. University of Massachusetts Medical School. Evolution of a gene related to insulin.

8:50 Dirgaiczyk, A. Baylor College of Medicine. Structure and evolution of the serum albumin family.

9:10 Wu, B. Harvard University. Evolution of two repetitive DNA sequence families in natural populations of Anolis carolinensis.

9:30 Hardison, R.C. Pennsylvania State University. Evolution of the beta-like globin gene family of rabbits.

9:50 Go, M. Kyushu University. Correlation between exons and protein structural units.

10:10 Break

10:30 Martin, S. University of California at Berkeley. Transcriptional silencing and the evolution of a pseudogene.

10:50 Rohl, R. Max Planck Institute. Evolutionary aspects of ribosome assembly.

11:10 Dayhoff, M.O., W.C. Barker, and J.A. Fredrickson. National Biomedical Research Foundation. A data base for establishing evolutionary trees using sequences.

Wednesday Morning — Lecture Hall Center 109

Session Title: DNA Heterogeneity — Session Leader: R. Milkman

8:10 Yokoyama, S. Washington University School of Medicine and the Jewish Hospital of St. Louis. Magnitude of DNA rearrangements during the development of the ciliate Tetrahymena thermophila.

8:30 Golding, G.B. University of Alberta. Expected frequencies of codon use as a function of mutation rates and codon fitnesses.

8:50 Tajima, F. University of Texas at Houston. Evolutionary relationship of DNA sequences in a finite population.

9:10 Schaal, B.A. and R. DeSalle. Washington University. Variation of rDNA sequences in Solidago altissima.

9:30 Lucotte, G., A. Gal, and J. Sala-Trefat. Centre National Recherche Scientique. Restriction site polymorphism of albumin and alpha foetoprotein genes in different inbred strains of rats.

9:50 Langley, C.H. National Institute of Environmental Health Science. Restriction map variation in the ADH region of Drosophila.

10:10 Break

10:30 Kreitman, M. Harvard University. DNA sequence variation at the ADH locus in D. melanogaster.

10:50 Milkman, R. University of Iowa. Nucleotide sequence in wild E. coli strains.

11:10 Levin, B., S. Burrowes, P. Starr, and S. Hattingh. University of Massachusetts. The role of recombination and plasmid transfer in bacterial evolution.

11:30 Levinthal, M. Purdue University. The evolution of metabolic pathways in Echerichia coli requires regulatory gene mutations.

Wednesday Afternoon, June 23

Symposium	Evolution of DNA and Proteins	Lecture Hall Center 100
1:00 p.m.	Marshall H. Edgell, University of North Carolina. Evolutionary Changes of the Globin Genes	
1:45 p.m.	Thomas Jukes, University of California at Berkeley. Silent Nucleotide Substitutions in Gene Evolution	
2:30 p.m.	Wen-Hsiung Li, University of Texas at Houston. Evolution of Duplicate Genes and Pseudogenes	
3:15 p.m.	Break	
3:30 p.m.	Norman Armheim, State University of New York at Stony Brook. Concerted Evolution of Multigene Families.	
4:15 p.m.	Wesley M. Brown, University of Michigan. Evolution of Animal Mitochondrial DNA	

Wednesday Evening, June 23

Workshop 7:00 p.m. Opportunities for Evolutionary Research in Agricultural Systems — Graduate Biology 054

Organizer: F. Gould, Department of Entomology, North Carolina State University

Panel Members: H. Alexander, Department of Plant Pathology, University of Minnesota

D. Boucher, Department of Biology, McGill University

R. Roush, Department of Entomology, Mississippi State University

B. Tabashnik, Pesticide Research Center, Michigan State University

Format: Each participant will speak for 15 minutes, and then there will be an open discussion.

Thursday Morning, June 24

Symposium	Polymorphisms of DNA and Proteins	Lecture Hall Center 100
8:30 a.m.	Robert K. Selander, University of Rochester. Protein Polymorphism and the Genetic Structure of Populations	
9:15 a.m.	Richard K. Koehn, State University of New York at Stony Brook. Polymorphism and Natural Selection	
10:00 a.m.	Break	
10:15 a.m.	Haig H. Kazazian, Johns Hopkins University. Polymorphism and Evolution in Globin Genes	
11:00 a.m.	John C. Avise, University of Georgia. Polymorphism of mitochondrial DNA	
11:45 a.m.	Masatoshi Nei, University of Texas at Houston. Patterns of Protein and DNA polymorphism	
12:30-1:30 p.m.	Lunch	Roth Cafeteria

Thursday Afternoon

Symposium	Implications of Molecular Evolution	Lecture Hall Center 100
1:30 p.m.	Motoo Kimura, National Institute of Genetics, Mishima. The Neutral Theory of Molecular Evolution	
2:15 p.m.	Barry G. Hall, University of Connecticut. Evolution of New Metabolic Functions	
3:00 p.m.	Break	
3:15 p.m.	Allan C. Wilson, University of California at Berkeley. The Role of Gene Regulation in Evolution	
4:00 p.m.	Walter M. Fitch, University of Wisconsin. Reconstruction of Phylogenies from Molecular Data	