

Jeffry B. Mitton

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Educational Experience

B.A., Biology, University of Connecticut, 1969

Ph.D., Ecology and Evolution, State University of New York at Stony Brook, 1973
(doctoral thesis advisor: Dr. Richard K. Koehn)

N.I.H. Postdoctoral Fellow, Department of Genetics, University of California at Davis
1973-1974 (post doctoral sponsor: Dr. Robert W. Allard)

Sabbatical: Marine Biological Laboratory, Woods Hole, Massachusetts, 1980-1981.

John Simon Guggenheim Fellow, Marine Biological Laboratory, Woods Hole,
Massachusetts, June-August, 1983.

Sabbatical: Hopkins Marine Station (Stanford University), Pacific Grove, CA 1989-1990.

Sabbatical: Brown University, September to December, 2000

Long-term collaboration with the University of Palermo, including exchange of graduate
students and visits to Sicily (1997, 2000, 2002, 2004)

Honors, Elected Positions, National Committee Service

Host, annual meeting of the Society for the Study of Evolution, Boulder, 1979.

Host, annual meeting of the Genetics Society of America, Boulder, 1980.

Secretary, Society for the Study of Evolution, 1982-1984.

John Simon Guggenheim Memorial Fellowship, 1983-1984.

Host, annual meeting of the Guild of Rocky Mountain Population Biologists, University
of Colorado, 1982, 1990, 1991, 1992, 1995, 2003

Executive Vice President, Society for the Study of Evolution, 1985-1988.

Book Review Editor, *Evolution*, 1985-1990.

Associate Editor, *Silvae Genetica*, 1986-1996.

American Association for the Advancement of Science Fellow, 1988.

Host and Organizer, Annual Meeting of the Society for the Study of Evolution and American Society of Naturalists, Asilomar, Pacific Grove, CA, 1988.

Host and Organizer, Annual Meeting of the Western Forest Genetics Association, Boulder, 1992.

Vice President, Society for the Study of Evolution, 1993.

Work on aspen listed in "100 Best of What's New for 1993," December 1993 issue of *Popular Science*.

Boulder Faculty Assembly Service Award, 1993

Panel member, Smithsonian Scholarly Studies Panel, 1994-1996.

Treasurer, American Society of Naturalists, 1996-1999.

Chair, Arts and Sciences Council (Faculty organization representing all faculty in the College of Arts and Sciences; chair elected annually) 1995-1999.

Host, Annual Meeting of the Society for the Study of Evolution, the American Society of Naturalists, and the Society for Systematic Biology, Boulder, 1997.

Special Editor for Perspectives, *Evolution*, 2000-2002

NSF Population Biology Panel, 2001 to 2005.

American Society of Naturalists E. O. Wilson Naturalist Prize Committee, 2001 to 2004 (Chair, 2003)

Department Chair, May 2004 to 2010

First place in the category Fauna in the City of Boulder Open Space and Mountain Photo Contest, August 2007, 2008

Grants and Awards

Research grant-in-aid, Theodore Roosevelt Memorial Fund of the American Museum of Natural History, 1971.

Research initiation faculty fellowship, University of Colorado, 1975.

NSF research grant with Y. B. Linhart, "Genetic analysis of population structure in two Rocky Mountain tree species," 1975-1978.

NSF research grant with Y. B. Linhart, "Genetic analysis of population structure in two Rocky Mountain tree species," 1978-1980.

NSF research grant "Genetic analysis of hormones in the tiger salamander," 1978-1979.

NSF research grant "Analyses of allozyme and morphological variation in the tiger salamander," 1979-1981.

US Forest Service research grant with K. Sturgeon "Evolutionary studies of the mountain pine beetle *Dendroctonus ponderosae* Hopk. and its host trees in the Colorado Rocky Mountains," 1980.

NSF research grant "Morphological and genetic studies of the blue mussel, *Mytilus edulis*," 1981.

John Simon Guggenheim Memorial Fellowship, 1983-1984.

World Wildlife Fund grant with Carl Berg, Jr. "Conch resource management in the Caribbean: a biochemical-genetic analysis of recruitment," 1983-1984.

NSF research grant with Thomas Kocher "Multidisciplinary studies of a hybrid zone," 1983.

Genetic Engineering Corporation grant "Enzyme heterozygosity and yield," 1984.

National Geographic Society grant with Carl Berg, Jr. and Katherine S. Orr "Biochemical-genetic analysis of larval recruitment in the Eastern Caribbean," 1984.

US Olympic Committee grant in aid of research, 1987-1988.

Subcontracts to NSF, USDA grants to Tom Whitham "Analyses of herbivore impact upon a pinyon pine forest," 1988-1989.

NSF research grant "Realized gene flow and the mating system of limber pine," 1987-1990.

Research Contract with Tyson Foods "Enzyme variability in pigs," 1989-1990.

Subcontract to NSF grant to Mark Boyce "Resolution of the lek paradox in sage grouse," 1987-1990.

Contract from Metro Toronto Zoo, with Anna Goebel “Studies of mitochondrial DNA in the Puerto Rican crested toad,” 1989-1990.

US Olympic Committee grant in aid of research, 1990-1991.

Research contract with Tyson Foods “Mitochondrial DNA variability in pigs,” 1991-1992. \$23,000.

USDA Forest Service grant “Hybridization in southwestern ponderosa pine,” 1992-1993. \$10,000.

Research contract with Tyson Foods “Cleaved amplified polymorphic sequences to identify the gene for porcine stress syndrome,” 1993-1994. \$15,000.

NSF Predoctoral Fellowship for Brian Kreiser. “Phylogeography of the plains killifish” 1993-1998. \$48,000.

USDA Forest Service Grant “Identification of spruces of the southwest,” 1994-1995. \$14,000.

Memorandum of Understanding with the Colorado Division of Wildlife for “Genetic studies of red belly dace and brown trout” 1994-1995. \$6,500

USDA Forest Service Grant “Analyses of the mating system of Washoe pine” 1995. \$5,000.

NSF Dissertation Improvement Grant for Robert G. Latta. “Molecular Studies of Population Structure in Limber Pine.” 1995-1997. \$8,000.

NSF Dissertation Improvement Grant for Scott Kelley “Evolution of resource specialization in the bark beetle genus *Dendroctonus*” 1995-1998. \$10,000.

Memorandum of Understanding with the Colorado Division of Wildlife for “Genetic studies of red belly dace and brown trout” 1995-1996. \$6,500

Memorandum of Understanding with the Colorado Division of Wildlife for “Genetic studies of red belly dace and brown trout” 1996-1997. \$6,500

Extension to a Memorandum of Understanding with the Colorado Division of Wildlife, “Genetic bioassays for stream standards” 1996-1999. \$38,000.

Memorandum of Understanding with the Colorado Division of Wildlife for “Genetic studies of red belly dace and brown trout” 1997-1998. \$6,500

Colorado Division of Wildlife Grant (with Rob Ramey) “Assessment of genetic variation in lynx from preserved tissues” 1998 \$10,000.

Memorandum of Understanding with the Colorado Division of Wildlife for “Genetic studies of red belly dace and brown trout” 1998-1999. \$10,000.

USDA Research Joint Venture Agreement “Toward an understanding of the molecular phylogeography of ponderosa pine” 1998-1999. \$15,000.

NSF Small Grant for Exploratory Research “MtDNA and cpDNA variation in limber pine and ponderosa pine” 1999-2000. \$7,200.

National Park Service Research Grant “A survey of genetic variation in limber pine” 2000, \$4,000.

NSF Grant “The roles of stress and time in insect outbreaks: the effects of one million year successional gradient, and a 100 year regional drought on the pine needle scale” 2000-2002, \$29,773

National Park Service Research Grant “Genetic variation in limber pine for resistance to white pine blister rust” 2001, \$4,000.

NSF Grant “MtDNA and cpDNA phylogeographies of ponderosa pine and limber pine” 2001-2005, \$250,000.

Joint Venture Agreement with USDA Forest Service “A mtDNA Phylogeography of Ponderosa pine” 2001-2004. \$9,000.

Challenge Cost Share Agreement, USDA Forest Service, “Genetic studies of greenback cutthroat trout” 2002-2003, \$40,000.

Colorado Division of Wildlife Contract “Genetic study of *Thomomys talpoides macrotis*” 5/8/03-6/30/03, \$6,504.

National Park Service Task Agreement “Restoration of native trout subspecies in Rocky Mountain National Park utilizing mitochondrial DNA and microsatellites” Andrew Martin, Co-PI, 2003-2004, \$61,870.

EPA Grant “Genetic variation of piñon pine exposed to radioactive sources” Steve Chischilly, Co-PI (Grant administered by Crownpoint Institute of Technology, Navajo Nation) 2003-2004 \$68,000.

US Fish and Wildlife Service Cooperative Agreement “Analyses of an historic population of greenback cutthroat trout in Dry Gulch” 2005-2006. \$5,000

Butcher Foundation Grant “Analyses of genes associated with endurance performance”
Rob Roach, co-PI. 2005 – 2008, \$100,000.

NSF Grant “Deep Underground Science and Engineering Laboratory (DUSEL) Site and Conceptual Design Cooperative Agreements” (NSF 05-506) 2005-2006 \$500,000. This is a collaboration spanning SUNY Stony Brook, CU, CSU, CSM, with \$32,000 awarded to CU. I was a Collaborator and Chair of the Biological Sciences Group.

National Park Service Cooperative Agreement H1200040001 “Understanding the Genetic Composition of Rocky Mountain Bighorn Sheep Herds” 2007-2009

DOE grant “Subalpine and alpine species range shifts with climate change: temperature and soil moisture manipulations to test species and population responses” to a consortium of biologists, led by Lara Kueppers at UC Merced. \$2.9 Million. Mitton’s portion is \$160,000, 2007 to 2011.

Colorado Division of Wildlife Research Grant “Eagle River Watershed Native Cutthroat Restoration” to John Woodling and Jeff Mitton. \$27,000, 2007 to 2008

Publications

Books

Mitton, J. B. 1973. Genetic and morphological adaptation to thermal stress in the coastal marine fish *Fundulus heteroclitus*. Ph D Thesis, State University of New York at Stony Brook, Stony Brook, New York. 115 pp. (Diss. Abstr. 34:4846; order no. 78-08943)

Mitton, J. B. and K. B. Sturgeon (eds.) 1982. Bark Beetles in North American Conifers: A System for the Study of Evolutionary Biology. University of Texas Press, Austin. 537 pp.

Mitton, J. B. 1997. Selection in Natural Populations. Oxford University Press, New York. 272 pp.

Journal Articles (116)

Koehn, R. K. and J. B. Mitton. 1972. Population genetics of marine pelecypods. I. Ecological heterogeneity and evolutionary strategy at an enzyme locus. *Am. Nat.* 106: 47-56.

Koehn, R. K., F. J. Turano, and J. B. Mitton. 1973. Population genetics of marine pelecypods. II. Genetic differences in microhabitats of *Modiolus demissus*. *Evolution* 27: 100-105.

- Mitton, J. B. and R. K. Koehn. 1973. Population genetics of marine pelecypods. III. Epistasis between functionally related isoenzymes of *Mytilus edulis*. *Genetics* 73: 487-496.
- Williams, G. C. and J. B. Mitton. 1973. Why reproduce sexually? *J. Theoret. Biol.* 39: 545-554.
- Williams, G. C., R. K. Koehn, and J. B. Mitton. 1973. Genetic differentiation without isolation in the American eel, *Anguilla rostrata*. *Evolution* 27: 192-204.
- Taylor, C. E. and J. B. Mitton. 1974. Multivariate analysis of genetic variation. *Genetics* 76: 575-585.
- Mitton, J. B. and R. K. Koehn. 1975. Genetic organization and adaptive response of allozymes to ecological variables in *Fundulus heteroclitus*. *Genetics* 79: 97-111.
- Mitton, J. B. 1975. Fertility differentials in modern societies resulting in normalizing selection for height. *Human Biol.* 47: 189-200.
- Bekoff, M., H. L. Hill, and J. B. Mitton. 1975. Behavioral taxonomy in canids by discriminant function analyses. *Science* 190: 1223-1225.
- Koehn, R. K., R. Milkman, and J. B. Mitton. 1976. Population genetics of marine pelecypods. IV. Selection, migration and genetic differentiation in the blue mussel, *Mytilus edulis*. *Evolution* 30: 2-32.
- Mitton, J. B. and R. K. Koehn. 1976. Morphological adaptation to thermal stress in a marine fish, *Fundulus heteroclitus*. *Biol. Bull.* 151: 548-559.
- Mitton, J. B. 1977. Genetic differentiation of races of man as judged by single locus and multilocus analyses. *Am. Nat.* 111: 203-212.
- Grant, M. C. and J. B. Mitton. 1977. Genetic differentiation among growth forms of Engelmann spruce and subalpine fir at tree line. *Arctic and Alpine Res.* 9: 259-263.
- Mitton, J. B., Y. B. Linhart, J. L. Hamrick, and J. S. Beckman. 1977. Observations on the genetic structure and mating system of ponderosa pine in the Colorado Front Range. *Theor. Appl. Genet.* 7: 5-13.
- Mitton, J. B. 1977. Shell color and pattern variation in *Mytilus edulis* and its adaptive significance. *Ches. Sci.* 18: 387-390.
- Mitton, J. B. 1978. Relationship between heterozygosity for enzyme loci and variation of morphological characters in natural populations. *Nature* 273: 661-662.

- Mitton, J. B. 1978. Measurement of differentiation: reply to Lewontin, Powell, and Taylor. *Am. Nat.* 112: 1142-1144.
- Bock, C. E., J. B. Mitton, and L. W. Lephien. 1978. Winter biogeography of North American Fringillidae (Aves): A numerical analysis. *Syst. Zool.* 27: 411-420.
- Pierce, B. A. and J. B. Mitton. 1979. A relation of genetic variation within and among populations: an extension of the Kluge-Kerfoot phenomenon. *Syst. Zool.* 28: 63-70.
- Mitton, J. B., Y. B. Linhart, K. B. Sturgeon, and J. L. Hamrick. 1979. Allozyme polymorphisms detected in mature needle tissue of ponderosa pine. *J. Hered.* 70: 86-89.
- Hamrick, J. L., Y. B. Linhart, and J. B. Mitton. 1979. Relationship between life history parameters and electrophoretically-detectable genetic variability in plants. *Ann. Rev. Ecol. Syst.* 10: 173-200.
- Grant, M. C. and J. B. Mitton. 1979. Elevational gradients in adult sex ratios and sexual differentiation in vegetative growth rates of *Populus tremuloides* Michx. *Evolution* 33: 914-918.
- Linhart, Y. B., J. B. Mitton, D. M. Bowman, and K. B. Sturgeon. 1979. Genetic aspects of fertility differentials in ponderosa pine. *Genet. Res.* 33: 237-242.
- Mitton, J. B. and M. C. Grant. 1980. Observations on the ecology and evolution of quaking aspen, *Populus tremuloides*, in the Colorado Front Range. *Am. J. Bot.* 67: 202-209.
- Sturgeon, K. B. and J. B. Mitton. 1980. Cone color polymorphism associated with elevation in white fir, *Abies concolor*, in southern Colorado. *Am. J. Bot.* 67: 1040-1045.
- Mitton, J. B. and B. A. Pierce. 1980. The distribution of individual heterozygosity in natural populations. *Genetics* 95: 1043-1054.
- Pierce, B. A. and J. B. Mitton. 1980. Patterns of allozyme variation in *Ambystoma tigrinum mavortium* and *A. t. nebulosum*. *Copeia* 1980: 594-605.
- Collins, J. P., J. B. Mitton, and B. A. Pierce. 1980. *Ambystoma tigrinum* (Green): A multi-species conglomerate? *Copeia* 1980: 938-941.
- Abbott, L. A. and J. B. Mitton. 1980. Diagnoses generated by numerical taxonomic methods applied to standard blood variables. *Meth. Inform. Med.* 19: 205-209.
- Pierce, B. A. and J. B. Mitton. 1980. The relationship between genome size and genetic variation. *Am. Nat.* 116: 850-861.

- Mitton, J. B., K. B. Sturgeon, and M. L. Davis. 1980. Genetic differentiation in ponderosa pine along a steep elevational gradient. *Silvae Genetica* 29: 100-103.
- Knowles, P. and J. B. Mitton. 1980. Genetic heterozygosity and radial growth variability in *Pinus contorta*. *Silvae Genetica* 29: 114-117.
- Linhart, Y. B., J. B. Mitton, K. B. Sturgeon, and M. L. Davis. 1981. Genetic variation in space and time in a population of ponderosa pine. *Heredity* 46: 407-426.
- Linhart, Y. B., M. L. Davis, and J. B. Mitton. 1981. Genetic control of allozymes of shikimate dehydrogenase in ponderosa pine. *Biochem. Genet.* 19: 641-646.
- Pierce, B. A., J. B. Mitton and F. L. Rose. 1981. Allozyme variation among large, small, and cannibal morphs of the tiger salamander inhabiting the Llano Estacado of West Texas. *Copeia*. 1981: 590-595.
- Bekoff, M., J. Diamond, and J. B. Mitton. 1981. Life history patterns and sociality in canids: body size, reproduction, and behavior. *Oecologia* 50: 386-390.
- Mitton, J. B. and R. Andalora. 1981. Genetic and morphological relationships between blue spruce, *Picea pungens* Engelm., and Engelmann spruce, *Picea engelmannii* Parry, in the Colorado Front Range. *Can. J. Bot.* 59: 2088-2094.
- Byers, B. A. and J. B. Mitton. 1981. Habitat choice in a marine snail. *Marine Biology* 65: 149-154.
- Mitton, J. B., Y. B. Linhart, M. L. Davis and K. B. Sturgeon. 1981. Estimation of outcrossing in ponderosa pine, *Pinus ponderosa* Laws, from patterns of segregation of protein polymorphisms and from frequencies of albino seedlings. *Silvae Genetica* 30: 117-121.
- Pierce, B. A. and J. B. Mitton. 1982. Allozyme heterozygosity and growth in the tiger salamander, *Ambystoma tigrinum*. *J. Hered.* 73: 250-253.
- Pierce, B. A., J. B. Mitton, L. Jacobson, and F. L. Rose. 1983. Head shape and size in cannibal and noncannibal larvae of tiger salamander from West Texas. *Copeia* 1983: 1006-1012.
- Beckman, J. S. and J. B. Mitton. 1984. Peroxidase allozyme differentiation among successional stands of ponderosa pine. *Amer. Midl. Nat.* 112: 43-49.
- Mitton, J. B. and M. C. Grant. 1984. Relationships among protein heterozygosity, growth rate, and developmental stability. *Ann. Rev. Ecol. Syst.* 15: 479-499.
- Farris, M. A. and J. B. Mitton. 1984. Population density, outcrossing rate, and heterozygote superiority in ponderosa pine. *Evolution* 38: 1151-1154.

- Mitton, J. B. 1985. So grows the tree. *Natural History*, January.
- Linhart, Y. B. and J. B. Mitton. 1985. Relationships among reproduction, growth rate, and protein heterozygosity in ponderosa pine. *Amer. J. Bot.* 72: 181-184.
- Mitton, J. B. and R. K. Koehn. 1985. Shell shape variation in the blue mussel, *Mytilus edulis*, and its association with enzyme heterozygosity. *J. Exp. Mar. Biol. Ecol.* 90: 73-80.
- Mitton, J. B. and P. H. Odense. 1985. Muscle esterase variation and size variation in the sand lance, *Ammodytes dubius*. *Marine Biology* 87: 279-283.
- Farris, M. A. and J. B. Mitton. 1985. The effects of a cone color dimorphism on the reproductive output of white fir growing along elevational gradients. *Amer. J. Bot.* 72: 1719-1725.
- Sturgeon, K. B. and J. B. Mitton. 1986. Allozyme and morphological differentiation of mountain pine beetles, *Dendroctonus ponderosae*, Hopkins (Coleoptera: Scolytidae) associated with host tree. *Evolution* 40: 290-302.
- Sturgeon, K. B. and J. B. Mitton. 1986. Biochemical diversity of *Pinus ponderosa* Laws. and predation by bark beetles, *Dendroctonus* spp. (Coleoptera: Scolytidae). *J. Econ. Entomol.* 79: 1064-1068.
- Mitton, J. B., C. Carey, and T. D. Kocher. 1986. The relation of enzyme heterozygosity to standard and active oxygen consumption and body size of tiger salamanders, *Ambystoma tigrinum*. *Physiol. Zool.* 59: 574-582.
- Berg, C. J. Jr., J. B. Mitton and K. S. Orr. 1986. Genetic analysis of the queen conch *Strombus gigas*. I. Preliminary implications for fisheries management. *Proc. Gulf Carib. Inst.* 37: 112-118.
- Rainey, D. Y., J. B. Mitton, and R. K. Monson. 1987. Associations between enzyme genotype and dark respiration in perennial ryegrass, *Lolium perenne*. *Oecologia* 74: 335-338.
- Jones, T. R., J. P. Collins, T. D. Kocher, and J. B. Mitton. 1988. Systematic status and distribution of *Ambystoma tigrinum stebbinsi* Lowe (Amphibia: Caudata). *Copeia* 1988: 621-635.
- Coelho, J. R. and J. B. Mitton. 1988. Oxygen consumption during hovering is associated with genetic variation of enzymes in honeybees. *Functional Ecology* 2: 141-146.
- Stutz, H. P. and J. B. Mitton. 1988. Genetic variation in Engelmann spruce associated with variation in soil moisture. *Arct. Alp. Res.* 20: 461-465.

- Schuster, W. S., D. L. Alles, and J. B. Mitton. 1989. Gene flow in limber pine: evidence from pollination phenology and genetic differentiation along an elevational transect. *Amer. J. Bot.* 76: 1395-1403.
- Mitton, J. B. and R. M. Jeffers. 1989. The genetic consequences of mass selection for growth rate in Engelmann spruce. *Silvae Genetica* 38: 6-12.
- Mitton, J. B., H. P. Stutz, W. S. Schuster, and K. L. Shea. 1989. Genotypic differentiation at PGM in Engelmann spruce from wet and dry sites. *Silvae Genetica* 38: 217-221.
- Mitton, J. B., C. Berg, Jr., and K. Orr. 1989. Population structure, larval dispersal, and gene flow in the queen conch, *Strombus gigas*. *Biol. Bull.* 177: 356-362.
- Mitton, J. B. and W. M. Lewis, Jr. 1989. Relationships between genetic variability and life-history features of bony fishes. *Evolution* 43: 1712-1723.
- Mitton, J. B. and M. Raphael. 1990. Genetic variation in the marten, *Martes americana*. *J. Mamm.* 71: 195-197.
- Rainey, D. Y., J. B. Mitton, R. K. Monson, and D. Wilson. 1990. Effects of selection for dark respiration rate on enzyme genotypes in *Lolium perenne* L. *Annals of Botany* 66: 649-654.
- Mopper, S., J. B. Mitton, T. G. Whitham, N. S. Cobb, and K. M. Christensen. 1991. Genetic differentiation and heterozygosity in pinyon pine associated with resistance to herbivory and environmental stress. *Evolution* 45: 989-999.
- Schuster, W. S. F. and J. B. Mitton. 1991. Relatedness within clusters of a bird-dispersed pine and the potential for kin interactions. *Heredity* 67: 41-48.
- Betancourt, J. L., W. S. Schuster, J. B. Mitton, and R. S. Anderson. 1991. Fossil and genetic history of a pinyon pine (*Pinus edulis*) isolate. *Ecology* 72: 1685-1697.
- Mitton, J. B. 1992. The dynamic mating systems of conifers. *New forests* 6: 197-216.
- Mitton, J. B. and W. M. Lewis, Jr. 1992. Response to Waples' comment on heterozygosity and life history variation in bony fishes. *Evolution* 46: 576-577.
- Grant, M. C., J. B. Mitton, and Y. B. Linhart. 1992. Even larger organisms. *Nature* 360: 216. (letter)
- Mitton, J. B., W. S. F. Schuster, E. G. Cothran, and J. De Fries. 1993. The correlation in heterozygosity between parents and their offspring. *Heredity* 71: 59-63.

Smith, H. M., D. Chiszar, E. Evanoff, and J. B. Mitton. 1993. The range of the so-called relictuall intergrades between the lizards *Sceloporus undulatus garmani* and *S. u. erythrocheilus*. Bulletin of the Maryland Herpetological Society 29: 30-36.

Liu, H. P. and J. B. Mitton. 1993. A technique to reveal restriction fragment length polymorphisms (RFLP's) in the genus *Physa*. Malacological Review 26: 89-90.

Ford, M. J. and J. B. Mitton. 1993. Gene flow among populations and the degree of relatedness within populations of the pink barnacle, *Tetraclita squamosa rubescens*. Molecular Marine Biology and Biotechnology 3: 147-153.

Mitton, J. B. 1993. Enzyme heterozygosity, metabolism, and developmental stability. Genetica 89: 47-65.

Cobb, N., J. B. Mitton, and T. G. Whitham. 1994. Genetic variation associated with chronic water and nutrient stress in pinyon pine. Amer. J. Bot. 81: 936-940.

Premoli, A., S. Chischilly, and J. B. Mitton. 1994. Genetic variation and the establishment of new populations of pinyon pine. Biodiversity and Conservation 3: 331-340.

Mitton, J. B., D. J. Zelenka, and P. A. Carter. 1994. Selection of breeding stock in pigs favours 6PGD heterozygotes. Heredity 73: 177-184.

Mitton, J. B. 1994. Molecular approaches to population biology. Annu. Rev. Ecol. Syst. 25: 45-69.

Chaisurisri, K., Y. El-Kassaby, and J. B. Mitton. 1994. Variation in the mating system of Sitka spruce and assortative mating at the Pgm-2 locus. Amer. J. Bot. 81: 1410-1415.

Schuster, W. S. F., J. B. Mitton, D. Yamaguchi, and C. A. Woodhouse. 1995. Young populations and ancient trees: A comparison of limber pine ages at lower and upper treeline sites east of the Continental Divide. Amer. Midl. Nat. 133: 101-111.

Grant, M. C. and J. B. Mitton. 1995. (Untitled letter). Science News 147: 243-252.

Rainey-Foreman, D. and J. B. Mitton. 1995. Natural selection of UDP genotypes in an experimental population of *Lolium perenne* (Poaceae). Am. J. Bot. 82: 811-815.

Rainey-Foreman, D. and J. B. Mitton. 1995. Glucose utilization by 6Pgd genotypes in *Lolium perenne*. Molecular Ecology 4: 231-237.

Kreiser, B. R. and J. B. Mitton. 1995. The evolution of cold tolerance in *Corbicula fluminea* (Bivalvia: Corbiculidae). The Nautilus 109: 111-112.

- Mitton, J. B. 1995. Enzyme heterozygosity and developmental stability. *Acta Theriologica supplement 3*: 33-54.
- Mitton, J. B. and M. C. Grant. 1996. Genetic variation and the natural history of quaking aspen. *BioScience* 46: 25-31.
- Liu, H.-P., J. B. Mitton and S.-K. Wu. 1996. Paternal mitochondrial DNA differentiation far exceeds maternal mitochondrial DNA and allozyme differentiation in the freshwater mussel, *Anodonta grandis grandis*. *Evolution* 50: 952-957.
- Liu, H.-S. and J. B. Mitton. 1966. Tissue-specific maternal and paternal mitochondrial DNA in the freshwater mussel, *Anodonta grandis grandis*. *J. Molluscan Studies* 62: 393-394.
- Liu, H.-P., J. B. Mitton, and S. J. Herrmann. 1996. Genetic differentiation and management recommendations for the freshwater mussel, *Pyganodon grandis*. *American Malacological Bulletin* 13: 117-124.
- Messier, S. and J. B. Mitton. 1996. Heterozygosity at the malate dehydrogenase locus and developmental homeostasis in *Apis mellifera*. *Heredity* 76: 616-622.
- Suchanek, T. H. J. B. Geller, B. R. Kreiser, and J. B. Mitton. 1997. Zoogeographic distributions of the sibling species *Mytilus galloprovincialis* and *M. trossulus* (Bivalvia: Mytilidae) and their hybrids in the North Pacific. *Biol. Bull.* 193: 187-194.
- Mitton, J. B. P. A. Carter, and A. DiGiacomo. 1997. Resting oxygen consumption varies among the lactate dehydrogenase genotypes in the sow bug, *Porcellio scaber*. *Proc. R. Soc. Lond. B* 264: 1543-1546.
- Latta, R. G. and J. B. Mitton. 1997. A comparison of population differentiation across four classes of gene marker in limber pine (*Pinus flexilis* James). *Genetics* 146: 1153-1163.
- Mitton, J. B., R. G. Latta, and G. E. Rehfeldt. 1997. The pattern of inbreeding in washoe pine and survival of inbred progeny under optimal environmental conditions. *Silvae Genetica* 46: 215-219.
- Schuett, G. W., P. J. Fernandez, W. F. Gergits, N. J. Casna, D. Chiszar, H. M. Smith, J. B. Mitton, S. P. Mackessy, P. A. Odum, and M. J. Demlong. 1997. Production of offspring in the absence of males: Evidence for facultative parthenogenesis in bisexual snakes. *Herp. Nat. Hist.* 5: 1-10.
- Mitton, J. B., M. C. Grant, and A. M. Yoshino. 1998. Variation in allozymes and stomatal size in pinyon (*Pinus edulis*, Pinaceae), associated with soil moisture. *American Journal of Botany* 85: 1262-1265.

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The tiger salamander's vicious tricks April 23, 2000

Bark beetle epidemics May 14, 2000

Mutualism among birds and pines May 28, 2000

Poisonous perfumes protect pines July 7, 2000

Hybridizing cottonwoods August 6, 2000

Immense and ancient quaking aspen September 10, 2000

A deadly game of hide 'n' seek October 15, 2000

Elevation, climate, and forests November 19, 2000

Voies burrow through the winter January 7, 2001

The evolution of a parasite February 25, 2001

Read evolutionary history in lodgepole cones April 1, 2001

Robins and marmots out in the cold, May 13, 2001

Little plants kill big trees July 1, 2001

Boulder's vulture trees September 16, 2001

The mussels of yesterday October 21, 2001

What females want December 9, 2001

Dedicated collectors January 20, 2002

Diet specialists March 3, 2002

Stealing food and defenses April 14, 2002

Flying anteaters: The reluctant woodpecker May 26, 2002

Colorful top predator June 30, 2002

Fish in a drought August 11, 2002

Pikas race against winter year round September 22, 2002

A house of stones October 27, 2002

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DNA detects new species January 26, 2003

Beaver fever warning March 9, 2003

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For barn swallows, size does matter June 1, 2003

Underwater flyers July 13, 2003

Nature's dam builder August 24, 2003

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Consuming love November 23, 2003

Flowers, moths follow the fire December 28, 2003

An unwelcome immigrant January 18, 2004

Shattered spruces March 20, 2004

Fastest on the prairie April 3, 2004

Marching into the river April 17, 2004

A moth in the soap May 1, 2004

New species in new landscape May 15, 2004

A biodiversity hot spot May 29, 2004

The ecology of cone color June 12, 2004

Foxes learn city ways June 26, 2004

Lilies disperse underground July 17, 2004

Enigma of the big cones July 31, 2004

Fish in a dry creek August 14, 2004

Close encounter with moose August 28, 2004

In defense of a harem September 11, 2004

Monarch migrations September 25, 2004

Besieged prairie dogs October 9, 2004

Colorado's largest bird October 23, 2004

Those dear deer mice November 6, 2004

Warming drives species north November 20, 2004

The world of the burying beetle December 3, 2004

Colorado's top predator December 18, 2004

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Turtles asleep in the mud January 15, 2005

Steller's jays face new pressures January 29, 2005

Mudsnails: an invader without enemies February 11, 2005

A lizard adaptation benefits humans February 25, 2005

An extinction not mourned March 11, 2005

Of dandelions, hybrids, and extinction, April 1, 2005

Ghost of a river lives in the genes of a fish April 15, 2005

El Niño triggers butterfly migrations April 29, 2005

A new species amid ancient fossils May 13, 2005

History buried in the cliffs May 27, 2005

Caterpillars spin silky system of survival June 17, 2005

Lupines help and hurt humans and animals June 24, 2005

State's largest fish a shadow of its former self July 8, 2005

Thyme's aroma is part of chemical defense July 22, 2005

Sharp on the outside, sweet on the inside August 12, 2005

Intelligent design isn't an intelligent idea August 26, 2005

Microbes a mile down September 9, 2005

Spiral trees on windy ridges September 23, 2005

Parasites bearing alien genes October 14, 2005

Tadpoles in the potholes October 28, 2005

Trees march across the tundra November 11, 2005

Don't put all your eggs in one nest November 24, 2005

If these rocks could talk December 9, 2005

Spider crossing December 23, 2005

The pharmacy in the forest January 6, 2006

Drilling for wood-boring insects January 20, 2006

A fuzzy tower of dangerous seeds February 3, 2006

Pasque flowers and snow buttercups February 17, 2006

Mysteries of the Owl Canyon pinyon March 3, 2006

Mixed up in the canyons March 17, 2006

Milkweed toxins defend butterflies from birds March 31, 2006

A scourge of spurge April 14, 2006

Pop goes the teasel April 28, 2006

Caterpillars take on toadflax May 12, 2006

Evolution spurred by climate change May 26, 2006

Ponderosa pines change with elevation June 9, 2006

The right genotype in the wrong place June 23, 2006

A resurgence of blue July 7, 2006

Imitation isn't always flattery July 28, 2006

An offensive chemical defense August 11, 2006

Sacred and deadly August 25, 2006

The diversity of life in a slot canyon September 8, 2006

Lichens promote ice formation September 22, 2006

Yellow jackets on the roses October 6, 2006

Miniature spiny dinosaurs become ladies October 20, 2006

A flexible mating strategy November 3, 2006

Legs for stinging, legs for snaring November 17, 2006

Eyes on the back of its head December 1, 2006

Galls and fluffy balls of wax December 15, 2006

Pigeons provided evolutionary data December 29, 2006

Sharp eyes high in the sky January 26, 2007

Gallery forests invite fox squirrels west February 9, 2007

A flock of red-winged blackbirds February 23, 2007

Early buds a local sign of climate change March 9, 2007; Grand Junction Daily Sentinel, March 25, 2007

The highly social pygmy nuthatch March 23, 2007

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House sparrows sleep with owls April 20, 2007

Blue-eyed Mary lights up the forest May 4, 2007

Magpies the most colorful in a noisy family May 18, 2007

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Deadly proteins protect prince's plume June 1, 2007

Green bottle flies first to a stench June 15, 2007

Offensive fangs, defensive rattle June 29, 2007

Carrion beetles on an elk carcass July 13, 2007

Truly ancient creatures fly in Boulder July 27, 2007

Ants defend caterpillars in exchange for food August 10, 2007

Orchids take nutrients from pines and fungi August 24, 2007

Robber flies carry their food September 7, 2007

Resourceful golden-mantled ground squirrels September 21, 2007

Song dialects in white-crowned sparrows October 5, 2007

Deceptive butterflies confuse hunting birds October 19, 2007

Ospreys evoke remorse and hope November 16, 2007

The bite of an assassin November 30, 2007

Crossbills adapted to different conifers December 14, 2007

Masters of camouflage December 28, 2007

Magpies and ravens recycle elk January 11, 2008

The uninvited guests of winter January 25, 2008

Meet the beetles February 8, 2008

A dwindling herd of bighorn February 22, 2008

Don't let the bed bugs bite March 7, 2008

European paper wasps ensconced in Boulder March 21, 2008

Extremely social tree swallows April 4, 2008

Agile spiders without webs April 18, 2008

Silent nocturnal hunter May 2, 2008

Surrender a blood meal, suffer a disease May 16, 2008

Owls bring snakes home—alive May 30, 2008

Water striders skim the surface June 13, 2008

Furtive singers in slot canyons June 27, 2008

The evolution of crypsis July 11, 2008

Tigers take wing in the meadow August 8, 2008

Earwigs pinch, spray and stink August 22, 2008

Beetles bleed defensively September 5, 2008

Pillbugs and sowbugs September 19, 2008

Nuthatches as tree guardians October 3, 2008

Poisonous caterpillars, palatable moths October 17, 2008

Delicious invaders October 31, 2008

Scarab beetles draw a crowd November 14, 2008

Parade of pollinators November 28, 2008

Colorful kestrel is our smallest falcon December 12, 2008

Let them eat wood December 26, 2008

Piñon pines call wasps for backup January 9, 2009

The flies of winter January 23, 2009

Sawflies manipulate willows February 13, 2009

Grosbeaks and spruce cones March 6, 2009

Tipping cow pies March 20, 2009

White marsh marigolds have roots in ice water April 3, 2009

Primitive yet indivisible April 17, 2009

Ditches transform semi-arid environment May 1, 2009

Uniquely radiant Western Tanagers May 29, 2009

Spiderwort, snotweed, cow slobber June 12, 2009

The Great Sand Dunes tiger June 26, 2009

A powerful, burrowing predator August 7, 2009

Hovering iridescence August 21, 2009

A bright lady slipper in a dark forest September 4, 2009

Waxwings and microbes compete for fruit September 18, 2009

Parasite drives host to attempt suicide October 2, 2009

Spadefoot toad adapts to desert's aridity October 16, 2009

The conspicuous presence of a small squirrel October 30, 2009

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Marine iguanas older than their islands December 11, 2009

Inconspicuous lizards evolved to blend in December 25, 2009

Quiet struggle between brook and cutthroat trout January 8, 2010

An introduced parasite in a wilderness January 22, 2010

Rock squirrels mob rattlesnakes February 5, 2010

Beelike flies hunt hosts for their eggs February 19, 2010

Easter daisies evolved to follow shrinking glaciers March 5, 2010

Evening primrose flowers at dusk, fades in the day March 19, 2010

A majestic and raucous gathering of sandhill cranes April 16, 2010

Why do elk tolerate magpies? April 30, 2010

Doctoral Students (Year of graduation and present position)

Dr. Benjamin Pierce. 1980. Professor, Southwestern University.

Dr. Kareen Sturgeon. 1980. Professor, Linfield College.

Dr. Bruce Byers. 1981. Environmental Consultant, Washington, DC

Dr. Thomas Kocher. 1985. Professor, University of New Hampshire.

Dr. Michael Farris. 1986. Associate Professor, Hamline University.

Dr. William Schuster. 1988. Director, Black Rock Forest, Columbia University.

Dr. Daphne Rainey-Foreman. 1989. Associate Professor, Macalester College.

Dr. Hans-Peter Stutz. 1990. Federal Forest Biologist, Zurich, Switzerland.

Dr. Patrick Carter. 1992. Associate Professor, Washington State University.

Dr. Hsiu-Ping Liu. 1994. Research Associate, Denver University.

Dr. Robert Latta. 1996. Associate Professor, Dalhousie University.

Dr. Scott Kelley. 1998. Associate Professor, San Diego State University.

Dr. Brian Kreiser. 1999. Associate Professor, Southern Mississippi State University.

Dr. Kristy Duran. 2004. Assitant Professor, Adams State College.

Masters Students

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Steven Chischilly 1996

Lori Martin, 1999