

## CURRICULUM VITAE

NAME: Michael T. Clegg

DATE & PLACE OF BIRTH: August 1, 1941; Pasadena, California

<u>EDUCATION:</u>	<u>Year</u>	<u>Degree</u>	<u>Institution</u>	
	1969	B.S.	Agricultural Genetics	University of California, Davis
	1972	Ph.D.	Genetics	University of California, Davis

### ACADEMIC POSITIONS HELD:

July 2014 – Present, Professor emeritus, Department of Ecology & Evolutionary Biology, University of California, Irvine.

July 1, 2004 – June 2014, Donald Bren Professor of Biological Sciences, Department of Ecology & Evolutionary Biology, University of California, Irvine.

July 1, 1994 – June 30, 2000, Dean, College of Natural and Agricultural Sciences, University of California, Riverside.

July 1984 – June, 2004, Professor of Genetics, Department of Botany & Plant Sciences, University of California, Riverside. Distinguished Professor, July 1990 - June 2004. Presidential Chair, July 2000 – June 2003.

September 1982 – July 1984, Professor of Botany and Professor of Genetics, University of Georgia, Athens, GA.

August 1981 - July 1982, Visiting Scientist, CSIRO, Division of Plant Industry, Canberra, Australia.

September 1976 - September 1982 - Associate Professor of Botany and Genetics, University of Georgia, Athens, GA.

July 1973 - August 1976, Assistant Professor of Biology, Brown University, Providence, RI.

July 1972 - July 1973, Instructor of Biology, Brown University, Providence, RI.

September 1969 - June 1972, NDEA Fellow, University of California, Davis, CA.

### HONORS:

NDEA Fellowship 1969 -72

Guggenheim Fellow 1981 -82

President American Genetic Association, 1987

Member, US National Academy of Sciences, Elected 1990

Fellow, American Academy of Arts and Sciences, Elected 1992

Key Lecturer, American Genetic Association 1994

Darwin Trust Prize, Edinburgh University 1995

Award of Distinction, UC Davis College of Agriculture and Environmental Sciences, 1999

Presidential Chair, University of California, Riverside 2000 – 2002.

President-Elect, President and Past President, Society for Molecular Biology & Evolution, 2000-2003

Nei Lecturer, Society for Molecular Biology & Evolution, Sorrento, Italy June, 2002

Chair-Elect, Chair and Past Chair; AAAS Section on Agriculture, Food and Renewable Resources 2003-2005

Elected Foreign Secretary, US National Academy of Sciences, 2002-2006, reelected 2006-10, reelected 2010-2014.  
Elected Associate Fellow, Academy of Sciences of the Developing World – Now known as the **World Academy of Sciences** (TWAS), 2006  
Elected Corresponding Member of the National Academy of Exact Physical and Natural Sciences of Argentina, 2007  
Elected Corresponding Member of the Academia de Agronomia and Veterinaria of Argentina, 2007.  
Elected Corresponding Member of the Academia Mexicana de Ciencias, 2008.  
Honorary Member Palestinian Academy of Sciences, 2009  
Elected Corresponding Member Cuban Academy of Sciences, 2010  
Designated Senior Fellow, California Council Science and Technology, 2010  
Elected Foreign Fellow Nigerian Academy of Science, 2012  
Elected Member, American Philosophical Society, 2012  
Elected Foreign Corresponding Member Academy of Physical, Mathematical and Natural Sciences of Venezuela, 2012  
Elected co-Chair, Inter American Network of Academies of Science 2010-13 and re-elected 2013-16.  
Elected International Council for Science (ICSU) Vice President (external) september 2014-2017.

#### MAJOR SERVICE ACTIVITIES:

NIH Genetics Study Section, 1982 - 86  
NSF Advisory Committee on Biological Sciences Directorate, 1992 - 1995  
Commission on the Life Sciences, National Research Council, 1990 - 96  
Board on Biology, National Research Council, 1990 - 2001 (Chairman 1994-1998)  
Chairman, National Research Council Committee on Scientific Issues in the Endangered Species Act. 1992-1995.  
Commission on Life Sciences, National Research Council, Chairman 1998-2000.  
Chairman, National Research Council Committee on Status of Maine Atlantic Salmon. 2000-03  
Ex Officio member, Governing Board, National Research Council (1998 -2000).  
Committee of Overseers for the Department of Organismic and Evolutionary Biology, Harvard University 1994-2006 (chair, 2000-2006).  
Member of Council, National Academy of Sciences, 2002-present.  
Member Council of Scientific Advisors, US Environmental Protection Agency, 2002-2007.  
Chair, Gordon Conference in Molecular Evolution, 2004  
Council Member, California Council on Science and Technology, 2003 – 2010.  
Member California-Mexico Commission on Science and Education, 2002 – 2006.  
Member Board of Governors, US-Mexico Foundation for Science (FUMEC), 2005 – 2012 (Chair 2009 – 2011).  
Member, International Council of Science (ICSU) committee on Scientific Planning and Review, 2003-2009.  
Member Governing Board, US-Indo Forum 2005-2013.  
Member Board of the Health Effects Institute 2006-present.

#### EDITORIAL DUTIES:

Associate Editor, GENETICS, 1982 -88  
Theoretical Population Biology, 1984 - 87  
The American Naturalist, 1980 - 84  
Molecular Phylogenetics and Evolution, 1992 - 2000  
Co-Editor, Evolutionary Biology 1992-2003.  
Editorial Board, Proceedings National Academy of Sciences USA 1995-97, 2001-2003.

PUBLICATIONS: M. T. Clegg

1. Clegg, M. T. and R. W. Allard. 1972. Patterns of genetic differentiation in the slender wild oat species *Avena barbata*. Proc. Nat. Acad. Sci. U.S.A. 69: 1820-1824.
2. Clegg, M. T., R. W. Allard, and A. L. Kahler. 1972. Is the gene the unit of selection? Evidence from two experimental plant populations. Proc. Nat. Acad. Sci. U.S.A. 69: 2472-2478.
3. Allard, R. W., G. R. Babbel, M. T. Clegg, and A. L. Kahler. 1972. Evidence for coadaptation in *Avena barbata*. Proc. Nat. Acad. Sci. U.S.A. 69: 3043-3048.
4. Clegg, M. T. and R. W. Allard. 1973. The genetics of electrophoretic variants in *Avena*. II. The esterase E1, E2, E4, E5, E6, and anodal peroxidase APX4 loci in *A. fatua*. J. Hered. 64: 3-7.
5. Clegg, M. T. and R. W. Allard. 1973. Viability versus fecundity selection in the slender wild oat, *Avena barbata* L. Science 181: 667-668.
6. Clegg, M. T. and J. F. Kidwell. 1974. Selection and mutation within and among full-sib lines. J. Hered. 65: 48-55.
7. Kahler, A. L., M. T. Clegg, and R. W. Allard. 1975. Evolutionary changes in the mating system of an experimental population of barley (*Hordeum vulgare* L.). Proc. Nat. Acad. Sci. U.S.A. 72: 943-946.
8. Clegg, M. T. 1975. Mechanisms of Evolution. In Biology Today, Chapter 32, 2nd edition. CRM Books. Del Mar, CA.
9. Allard, R. W., A. L. Kahler, and M. T. Clegg. 1975. Isozymes in plant population genetics. Proc. Third Int. Conf. on Isozymes. Acad. Press, NY, p. 261-272.
10. Clegg, M. T., J. F. Kidwell, M. G. Kidwell, and N. J. Daniel. 1976. Dynamics of correlated genetic systems. I. Selection in the region of the glued locus of *Drosophila melanogaster*. Genetics 83: 793-810.
11. Cavener, D. R. and M. T. Clegg. 1976. The genetics of glutamate oxaloacetate transaminase in *Drosophila melanogaster*. J. Hered. 67: 313-314.
12. Allard, R. W., A. L. Kahler, and M. T. Clegg. 1977. Estimation of mating cycle components of selection in plants, p. 765-792. In Christiansen, F. B. and T. M. Fenchel (eds.), Measuring Selection in Natural Populations. Springer-Verlag.
13. Kidwell, J. F., M. T. Clegg, F. M. Stewart, and T. Prout. 1977. Regions of stable equilibria for models of differential selection in the two sexes under random mating. Genetics 85: 171-183.
14. Clegg, M. T., A. L. Kahler, and R. W. Allard. 1978. Estimation of life cycle components of selection in an experimental plant population. Genetics 89: 765-792.
15. Clegg, M. T. 1978. Dynamics of correlated genetic systems. II. Simulation studies of chromosomal segments under selection. Theoretical Pop. Biol. 13: 1-23.
16. Clegg, M. T., J. F. Kidwell, and M. G. Kidwell. 1978. Dynamics of correlated genetic systems. III. Behavior of chromosomal segments under lethal selection. Genetica 48: 95-106.

17. Cavener, D. R. and M. T. Clegg. 1978. Dynamics of correlated genetic systems. IV. Multilocus effects of ethanol stress environments. *Genetics* 90: 629-644.
18. Clegg, M. T., A. L. Kahler, and R. W. Allard. 1978. Genetic demography of plant populations, p. 173-188. In Brussard, P. F. (ed.), *Genetics and Ecology: The Interface*. Springer-Verlag.
19. Stewart, F. M., M. T. Clegg, and J. F. Kidwell. 1979. Two locus models of selection and mutation within and among full-sib lines. *Theoretical Appl. Genet.* 54: 133-139.
20. Clegg, M. T., J. F. Kidwell, and C. R. Horch. 1979. Dynamics of correlated genetic systems. VI. Variation in recombination rates in experimental populations of *Drosophila melanogaster*. *J. Hered.* 70: 297-300.
21. Clegg, M. T., C. R. Horch, and J. F. Kidwell. 1980. Dynamics of correlated genetic systems. V. Rates of decay of linkage disequilibria in experimental populations of *Drosophila melanogaster*. *Genetics* 94: 217-234.
22. Clegg, M. T. 1980. Measuring plant mating systems. *Bioscience* 30: 814-818.
23. Cavener, D. R. and M. T. Clegg. 1981. Multigenic response to ethanol in *Drosophila melanogaster*. *Evolution* 35: 1-13.
24. Cavener, D. R. and M. T. Clegg. 1981. Evidence for biochemical and physiological differences between enzyme genotypes in *Drosophila melanogaster*. *Proc. Nat. Acad. Sci. USA* 78: 4444-4447.
25. Cavener, D. R. and M. T. Clegg. 1981. Temporal stability of allozyme frequencies in a natural population of *Drosophila melanogaster*. *Genetics* 98: 613-623.
26. Asmussen, M. A. and M. T. Clegg. 1981. Dynamics of the linkage disequilibrium function under models of gene frequency hitchhiking. *Genetics* 99: 337-356.
27. Rawson, J. R., M. T. Clegg, K. Thomas, C. Rinehart, and B. Wood. 1981. A restriction map of the ribosomal RNA genes and the short single-copy DNA sequence of the pearl millet chloroplast genome. *Gene* 16: 11-19.
28. Asmussen, M. A. and M. T. Clegg. 1982. Rates of decay of linkage disequilibrium under two-locus models of selection. *J. Math. Bio.* 14: 37-70.
29. Rawson, J. R. Y., K. Thomas, and M. T. Clegg. 1982. Purification of total cellular DNA from a single plant. *Biochem. Genet.* 20: 209-219.
30. Asmussen, M. A. and M. T. Clegg. 1982. Use of restriction fragment length polymorphisms in genetic counseling: Population genetic considerations. *Amer. J. Human Genet.* 34: 369-380.
31. Clegg, M. T. and D. R. Cavener. 1982. Dynamics of correlated genetic systems. VII. Demographic aspects of sex linked transmission. *Amer. Natur.* 120: 108-118.
32. Ennos, R. A. and M. T. Clegg. 1982. Effect of population substructuring on estimates of outcrossing rate in plant populations. *Heredity* 48: 283-292.

33. Clegg, M. T. and M. A. Asmussen. 1983. Use of restriction fragment polymorphism as genetic markers, p. 201-229. In Weir, B. S. (ed.), *Statistical Analysis of DNA Sequence Data*. Marcel Dekker, Inc., NY.
34. Brown, A. H. D. and M. T. Clegg. 1983. Analysis of variation in related DNA sequences, p. 107-132. In Weir, B. S. (ed.), *Statistical Analysis of DNA Sequence Data*. Marcel Dekker, Inc., NY.
35. Brown, A. H. D. and M. T. Clegg. 1983. Isozyme assessment of plant genetic resources, p. 285-295. In Rattazzi, M. C., J. G. Scandalios, and G. S. Whitt (eds.), *Isozymes: Current Topics in Biological and Medical Research*, Vol. II. Alan R. Liss, Inc., NY.
36. Clegg, M. T. and A. H. D. Brown. 1983. The founding of plant populations, p. 216-228. In Schonewald-Cox, C. M., S. M. Chambers, B. MacBryde, and L. Thomas (eds.), *Genetic and Conservation*. Benjamin Cummings, Menlo Park, CA.
37. Clegg, M. T. 1983. Detection and measurement of natural selection, p. 241-255. In Tanksley, S. D. and T. J. Orton (eds.), *Plant Isozymes*. Elsevier Publishing Co., Amsterdam.
38. Ennos, R. A. and M. T. Clegg. 1983. Flower color variation in morning glory, *Ipomoea purpurea* Roth. (Convolvulaceae). *J. Hered.* 74: 247-250.
39. Clegg, M. T., J. R. Y. Rawson, and K. Thomas. 1984. Chloroplast DNA variation in pearl millet and related species. *Genetics* 106: 449-461.
40. Zurawski, G., M. T. Clegg, and A. H. D. Brown. 1984. The nature of nucleotide sequence divergence between barley and maize chloroplast DNA. *Genetics* 106: 735-749.
41. Clegg, M. T., A. H. D. Brown, and P. R. Whitfeld. 1984. Chloroplast DNA diversity in wild and cultivated barley: Implications for genetic conservation. *Genet. Res.* 42: 1-5.
42. Schoen, D. J., D. E. Giannasi, R. A. Ennos, and M. T. Clegg. 1984. Stem color and pleiotropy of genes determining flower color in the common morning glory, *Ipomoea purpurea* (Convolvulaceae). *J. Hered.* 75: 113-116.
43. Zurawski, G. and M. T. Clegg. 1984. The barley chloroplast DNA *atpBE*, *trnM2*, and *trnV1* loci. *Nucl. Acids Res.* 12: 2549-2559.
44. Curtis, S. E. and M. T. Clegg. 1984. Molecular evolution of chloroplast DNA sequences. *Mol. Bio. Evolut.* 1: 291-301.
45. Brown, B. A. and M. T. Clegg. 1984. Influence of flower color polymorphism on genetic transmission in a natural population of the common morning glory, *Ipomoea purpurea*. *Evolution* 38: 796-803.
46. Clegg, M. T. 1984. Dynamics of multilocus genetic systems. *Oxford Surv. Evolut. Biol.* 1: 160-183.
47. Schoen, D. J. and M. T. Clegg. 1984. Estimation of mating system parameters when outcrossing events are correlated. *Proc. Nat. Acad. Sci. USA.* 81: 5258-5262.
48. Clegg, M. T. and B. K. Epperson. 1985. Recent developments in population genetics. *Adv. Genet.* 23: 235-269.

49. Clegg, M. T., D. J. Schoen, and B. K. Epperson. 1985. The interaction between phenotypic diversity and mating patterns in plant populations, p. 287-297. In Haeck, J. and J. W. Woldendorp (eds.), *Structure and Function of Plant Populations. II. Phenotypic and genotypic variation in plant populations.* North Holland Publ. Co., Amsterdam.
50. Schoen, D. J. and M. T. Clegg. 1985. The influence of flower color on outcrossing rate and male reproductive success in *Ipomoea purpurea*. *Evolution* 29: 1242-1249.
51. Asmussen, M. A. and M. T. Clegg. 1985. Multiallelic restriction fragment polymorphisms in genetic counseling: Population genetic considerations. *Hum. Hered.* 35: 129-142.
52. Schoen, D. J. and M. T. Clegg. 1986. Monte Carlo studies of plant mating system estimation models: The one pollen parent and mixed mating models. *Genetics* 112: 927-945.
53. Clegg, M. T., K. Ritland, and G. Zurawski. 1986. Processes of chloroplast DNA evolution, p. 275-294. In Karlin, S. and E. Nevo (eds.), *Evolutionary Processes and Theory.* Academic Press, NY
54. Clegg, M. T. 1986. Genetics of crop improvement. *Amer. Zool.* 26: 821-833.
55. Epperson, B. K. and M. T. Clegg. 1986. Spatial autocorrelation analysis of flower color polymorphisms within substructured populations of morning glory (*Ipomoea purpurea*). *Amer. Natur.* 128: 840-858.
56. Epperson, B. K. and M. T. Clegg. 1987. First-pollination primacy and pollen selection in the morning glory, *Ipomoea purpurea*. *Heredity* 54: 5-14.
57. Epperson, B. K. and M. T. Clegg. 1987. Frequency-dependent variation for out-crossing rate among color morphs of *Ipomoea purpurea*. *Evolution* 41: 1302-1311.
58. Gerlach, W. L., E. S. Dennis, W. J. Peacock, and M. T. Clegg. 1987. The Dsl controlling element family in maize and *Tripsacum*. *J. Molec. Evol.* 26: 329-334.
59. Ritland, K. and M. T. Clegg. 1987. Evolutionary analysis of plant DNA sequences. *Amer. Natur.* 130: S74-S100. (This paper was awarded a prize for being the best paper published in the *Amer. Natur.* in 1987)
60. Zurawski, G. and M. T. Clegg. 1987. Evolution of higher plant chloroplast DNA-encoded genes: Implications for structure-function and phylogenetic studies. *Ann. Rev. Plant Physiol.* 38: 391-418.
61. Clegg, M. T. 1987. Preface to plant molecular evolution. *Amer. Natur.* 130: S1-S5.
62. Tucker, M. L., M. L. Durbin, M. T. Clegg, and L. N. Lewis. 1987. Avocado cellulase: nucleotide sequence of a full-length cDNA clone and evidence for a small gene family. *Plant Molec. Biol.* 9: 197-204.
63. Epperson, B. K. and M. T. Clegg. 1987. Instability at a flower color locus in the morning glory. *J. Hered.* 78: 346-352.
64. Epperson, B. K. and M. T. Clegg. 1988. Genetics of flower color polymorphism in the common morning glory, *Ipomoea purpurea*. *J. Hered.* 79: 64-68.

65. Clegg, M. T. and B. K. Epperson. 1988. Natural selection on flower color polymorphisms in morning glory populations, p. 255-273. In Gottlieb, L. and S. K. Jain (eds.), *Plant Evolutionary Biology*. Chapman-Hall Ltd., London.
66. Learn, G. H., M. L. Durbin, and M. T. Clegg. 1988. A gene for tRNA-Ile (CAU) from the chloroplasts of a monocot, *Pennisetum americanum*. *Nucleic Acids Res.* 16: 4734.
67. Gepts, P. and M. T. Clegg. 1989. Genetic diversity in pearl millet (*Pennisetum glaucum* (L.) R. Br.) at the DNA sequence level. *J. Hered.* 80: 203-208.
68. Clegg, M. T. 1989. Analyses of molecular diversity within and among plant species, p. 51-56. In Helentjaris, T. and B. Burr (eds.), *Current Communications in Molecular Biology*. Cold Springs Harbor, NY.
69. Clegg, M. T. 1989. Molecular diversity in plant populations, p. 99-116. In Brown, A. H. D., M. T. Clegg, A. L. Kahler, and B. S. Weir (eds.), *Plant Population Genetics, Breeding, and Genetic Resources*. Sinauer Assoc., Sunderland, MA.
70. Ritland, K. and M. T. Clegg. 1990. Optimal DNA sequence divergence for testing phylogenetic hypotheses. In, *Molecular Evolution* (M. T. Clegg & S. J. O'Brien, eds) Alan R. Liss, New York. pp289-296.
71. Clegg, M. T. 1990. Dating the monocot-dicot divergence. *Trends Ecol. Evol.* 5: 1-2.
72. Golenberg, E. M., D. E. Giannasi, M. T. Clegg, C. J. Smiley, M. Durbin, D. Henderson and G. Zurawski. 1990. Chloroplast DNA sequence from a miocene *Magnolia* species. *Nature* 344: 656-658.
73. Furnier, G. R., M. P. Cummings and M. T. Clegg. 1990. Evolution of the avocados as revealed by DNA restriction fragment variation. *J. Heredity* 81: 183-188.
74. Wilson, M. A., B. Gaut and M. T. Clegg. 1990. Chloroplast DNA evolves slowly in the palm family (*Arecaceae*). *Molec Biol Evol.* 7: 303-314.
75. Doebley, J., M. Durbin, E. M. Golenberg, M. T. Clegg and D. P. Ma. 1990. Evolutionary analysis of the large subunit of carboxylase (*rbcL*) nucleotide sequence among the grasses (*Gramineae*). *Evolution.* 44: 1097-1108.
76. Clegg, M. T. and M. L. Durbin. 1990. Molecular approaches to the study of plant biosystematics. *Australian Systematic Botany.* 3: 1-8.
77. MacRae, A. F., G. H. Learn, M. Kerjala and M. T. Clegg. 1990. Presence of an activator (Ac) - like sequence in *Pennisetum glaucum* (pearl millet). *Plant Molec Biol.* 15: 177-179.
78. Soltis, D. E., P. S. Soltis, M. T. Clegg and M. L. Durbin. 1990. *rbcL* sequence divergence in the Saxifragaceae sensu lato. *Proc Natl Acad Sci USA* 87: 4640-4644.
79. Clegg, M. T., G. H. Learn and E. M. Golenberg. 1991. Molecular evolution of Chloroplast DNA. Chapter 7 In, *Evolution at the Molecular Level* (R. K. Selander, A. G. Clark and T. S. Whittam, eds.) Sinauer Associates, Sunderland, MA. pp135-149.

81. Clegg, M. T. and G. Zurawski. 1991. Chloroplast DNA and the study of plant phylogeny: Present status and future prospects. Chapter 1 In, *Molecular Systematics of Plants*. D. E. Soltis, P. S. Soltis and J. J. Doyle (eds.) Chapman and Hall. pp1-13
82. Gaut, B. S. and M. T. Clegg. 1991. Molecular evolution of *Alcohol dehydrogenase 1* in members of the grass family. *Proc. Natl. Acad. Sci. USA*. 88: 2060-2064.
83. Taylor, G. E. jr, L. F. Pitelka and M. T. Clegg. 1991. Introduction to Ecological Genetics and Air Pollution. Taylor, G. E. jr, L. F. Pitelka and M. T. Clegg (eds.). Springer-Verlag, New York. Chapter 1 pp1-10.
84. Learn, G. H., J. S. Shore, G. R. Furnier, G. Zurawski and M. T. Clegg. 1992. Constraints on the evolution of chloroplast introns: the intron in the gene encoding tRNA-Val (UAC). *Molec. Biol. Evol.* 9: 856-871.
85. Giannasi, D. E., G. Zurawski, G. H. Learn and M. T. Clegg. 1992. Evolutionary relationships of the Caryophyllidae based on comparative *rbcL* sequences. *Systematic Bot.* 17: 1-15.
86. Epperson, B. K. and M. T. Clegg. 1992. Unstable white flower color genes and their derivatives in the morning glory. *J. Heredity* 83: 405-409.
87. Clegg, M. T., B. K. Epperson and A. H. D Brown. 1992. Genetic diversity and reproductive system. In, *Reproductive Biology and Plant Breeding*. Y. Dattee, C. Dumas & A. Gallais (eds). Springer-Verlag, Berlin. pp 311- 324.
88. Gaut, B. S., S. V. Muse, W. D. Clark and M. T. Clegg. 1992. Relative rates of nucleotide substitution at the *rbcL* locus in monocotyledonous plants. in press. *J. Molec. Evol.* 35: 292-303.
89. MacRae, A. F. and M. T. Clegg. 1992. Evolution of Ac and Ds1 elements in select grasses (Poaceae). *Genetica* 86: 55-66.
90. Clegg, M. T. 1993. Chloroplast gene sequences and the study of plant evolution. *Proc. Natl. Acad. Sci. USA*. 90: 363-367.
91. Duvall, M. R., G. H. Learn, L. E. Eguiarte and M. T. Clegg. 1993. Phylogenetic analysis of *rbcL* sequences identifies *Acorus calamus* as the primal extant monocotyledon. *Proc. Natl. Acad. Sci. USA*. 90: 4641-4644.
92. Gaut, B. S. and M. T. Clegg. 1993. Molecular evolution of the *Adh1* locus in the genus *Zea*. *Proc. Natl. Acad. Sci. USA* 90: 5095-5099.
93. Golenberg, E. M., M. T. Clegg, M. L. Durbin, J. Doebley and D. P. MA. 1993. Evolution of a noncoding region of the chloroplast genome. *Molec. Phylogenetics & Evol.* 2: 52-64.
94. Zurawski, G. and M. T. Clegg. 1993. *rbcL* sequence data and phylogenetic reconstruction in seed plants: Foreward. *Ann. Mo. Bot. Gard.* 80: 523-525. (nonrefereed invited contribution).
95. Duvall, M. R., M. T. Clegg, M. W. Chase, W. D. Clark, J. W. Kress, E. A. Zimmer, H. G.



- Hills, L. E. Eguiarte, J. F. Smith, B. S. Gaut and G. H. Learn. 1993 . Phylogenetic hypotheses for the Monocotyledons constructed from *rbcL* sequence data. *Ann. Mo. Bot. Gard.* 80: 607-619.
96. Clegg, M. T. 1993. Molecular evaluation of plant genetic resources. pp 67 - 85. In, *Gene Conservation and Exploitation*. J. P. Gustafson, R. Appels and P. Raven (eds). 20<sup>th</sup> Stadler Genetics Symposium. Plenum Press, New York.
  97. Gaut, B. S., S. V. Muse and M. T. Clegg. 1993. Relative rates of nucleotide substitution in the chloroplast genome. *Molec. Phylogenetics & Evol.* 2: 89-96
  98. Morton, B. and M. T. Clegg. 1993. Hotspots for insertion/deletion mutation in noncoding regions of the chloroplast genome. *Current Genetics* 24: 357-365.
  99. Clegg, M. T., B. S. Gaut, M. R. Duvall and J. Davis. 1993. Inferring plant evolutionary history from molecular data. *New Zealand J. Bot.* 31: 307-316.
  100. Gaut, B. S. and M. T. Clegg. 1993. Nucleotide polymorphism in the *Adh1* locus of pearl millet (*Pennisetum glaucum*) (Poaceae). *Genetics* 135: 1091-1097.
  101. Clark W. D., B. S. Gaut, M. R. Duvall and M. T. Clegg. 1993. Phylogenetic relationships of the Bromeliiflorae-Commeliniflorae- Zingiberiflorae complex of monocots. *Ann. Mo. Bot. Gard.* 80: 987-998.
  102. Clegg, M. T. 1994. Dedication: Robert W. Allard plant population geneticist and agronomist. *Plant Breeding Reviews.* 12: 1-17. (nonrefereed invited contribution)
  104. Clegg, M. T., B. S. Gaut, J. H. Learn jr and B. R. Morton. 1994. Rates and patterns of chloroplast DNA evolution. *Proc. Natl. Acad. Sci. USA* 91: 6795-6801.
  105. MacRae, A. F., G. A. Huttley and M. T. Clegg. 1994. Molecular evolutionary characterization of an Activator (Ac)-like transposable element sequence from pearl millet (Pennisetum glaucum) (Poaceae). *Genetica* 92: 77-89.
  106. Eguiarte, L. E., M. R. Duvall, G. H. Learn and M. T. Clegg. 1994. The systematic status of the Agavaceae and the Nolinaceae related Asparagales in the Monocotyledons: an analysis based on the *rbcL* gene sequence. *Bol. Soc. Mexico* 54: 35- 56.
  107. Huttley, G., A. F. MacRae and M. T. Clegg. 1995. Molecular evolution of the Ac/Ds transposable element family in pearl millet and other grasses. *Genetics* 139: 1411-1419.
  108. Durbin, M. L., G. H. Learn, G. A. Huttley and M. T. Clegg. 1995. Evolution of the chalcone synthase gene family in the genus Ipomoea. *Proc. Natl. Acad. Sci. USA* 92: 3338-3342.
  109. Morton, B. R. and M. T. Clegg. 1995. Neighboring base composition is strongly correlated with base substitution bias in a region of the chloroplast genome. *J. Molec Evol* 41: 597-603.
  110. Clegg, M. T. 1995. Conserving biological diversity: an evolutionary perspective.

111. Glover, D. E., M. L. Durbin, G. Huttley and M. T. Clegg. 1996. Genetic diversity in the common morning glory. *Plant Species Biology*. 11: 41-50.
112. Gaut, B. S., Morton, B. R., McCaig, B. and M. T. Clegg. 1996. Substitution rate comparisons between grasses and palms: Rate differences at the nuclear gene *Adh* parallel rate differences at the plastid gene *rbcL*. *Proc Natl Acad Sci USA* 93: 10274-10279.
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