

REFERENCES

- Amman, R.I., Ludwig, W. and Schleifer, K.H. 1995. Phylogenetic identification and *in situ* detection of individual cells without cultivation. *Microbiological Reviews*, 59: 143-169.
- Anagnostidis, K. and Komárek, J. 1985. Modern approach to the classification system of cyanobacteria 1. Introduction. *Archiv für Hydrobiologie/Algological Studies*, 38/39: 291-302.
- Anagnostidis, K. and Komárek, J. 1988. Modern approach to the classification system of cyanobacteria 3. Oscillatoriales. *Archiv für Hydrobiologie/Algological Studies*, 50/53: 327-472.
- Anagnostidis, K. and Komárek, J. 1990. Modern approach to the classification system of cyanobacteria 5. Stigonematales. *Archiv für Hydrobiologie/Algological Studies*, 59: 1-73.
- APHA, AWWA and WPCF. *Standard Methods for the Examination of Water and Wastewater*. Washington DC: American Public Health Association, 1998.
- Ballot, A., Dadheech, P.K. and Krienitz, L. 2004. Phylogenetic relationship of *Arthrospira*, *Phormidium* and *Spirulina* strains from Kenyan and Indian waterbodies. *Algological Studies*, 113: 37-56.
- Boon, N., De Windt, W., Verstraete, W. and Top, E.M. 2002. Evaluation of nested PCR-DGGE with group specific 16S rRNA primers for the analysis of bacterial communities from different wastewater treatment plants. *FEMS Microbiology Ecology*, 39(2): 101-112.
- Brinkhoff, T., Santagoeds, C.M., Sahm, K., Kuever, J. and Muyzer, G. 1998. A polyphasic approach to study the diversity and vertical distribution of sulfur-oxidizing *Thiomicrospora* species in coastal sediments of German Wadden Sea. *Applied and Environmental Microbiology*, 64: 4650-4657.
- Brock, T.D. *Thermophilic Microorganisms and Life at High Temperatures*. Berlin: Springer-Verlag, 1978.
- Bunopas, S. and Vella, P. 1983. Opening of the gulf of Thailand-Rifting of continental southeast Asia and late Cenozoic tectonics. *Journal of Geological Society of Thailand*, 6: 1-12.

- Carr, N.G. and Whitton, B.A. *The Biology of Cyanobacteria: Botanical Monographs 9*. Oxford: Blackwell, 1982.
- Casamatta, D.A., Johansen, J.R., Vis, M.L. and Broadwater, S.T. 2005. Molecular and morphological characterization of ten polar and near-polar strains within the Oscillatoxiales (cyanobacteria). *Journal of Phycology*, 41: 421–438.
- Castenholz, R.W. (1973). Ecology of blue-green algae in hot springs. in Carr, N.G., Whitton, B.A. (eds.), *The biology of blue - green algae* (pp. 379-414), New York: Blackwell Scientific Publications.
- Castenholz, R.W. 1976. The effect of sulfide on the bluegreen algae of hot springs. I. New Zealand and Iceland. *Journal of Phycology*, 12(1): 54-68.
- Castenholz, R.W. 1977. The effect of sulfide on the blue-green algae of hot springs. II. Yellowstone National Park. *Microbial Ecology*, 3: 79-105.
- Castenholz, R.W. 1978. The biogeography of hot spring algae through enrichment cultures. *Mitteilungen Internationale Vereinigung fuer Theoretische und Angewandte Limnologie*, 21: 296-315.
- Castenholz, R.W. (1981). Isolation and cultivation of thermophilic cyanobacteria. in Starr, M.P., Stolp, H., Trüper, H.G., Balows, A. and Schlegel, H.G. (eds.), *The prokaryotes: A handbook on habitats, isolation, and identification of bacteria: Vol. I* (pp. 236-246), Berlin: Springer-Verlag.
- Castenholz, R.W. 1988. Culturing methods for cyanobacteria. *Methods in Enzymology*. 167: 68-93.
- Castenholz, R.W. and Waterbury, J.B. (1989). Oxygenic photosynthetic bacteria (sect 19), Group I. Cyanobacteria. in Stay, J.T, Bryant, M.P., Pfennig, N. and Holt, J.G. (eds.), *Bergey's manual of systematic bacteriology, Vol. 3* (pp. 1710-1799), Baltimore: Williams & Wilkins.
- Castenholz, R.W. 1992. Species usage, concept and evolution in the cyanobacteria (blue-green algae). *Journal of Phycology*, 28: 737-745.
- Castenholz, R.W. 1996. Endemism and biodiversity of thermophilic cyanobacteria. *Nova Hedwigia, Beiheft*, 112:33-47.

- Castenholz, R.W. (2001). Phylum BX. Cyanobacteria: Oxygenic photosynthetic bacteria. in Boone, D. R. and Castenholz, R. W. (eds.), *Bergey's manual of systematic bacteriology, second edition. Vol. 1* (pp. 474-599), New York: Springer.
- Chansaghavate, K. and Niyomrit, S. 1992. Cyanobacteria in high temperature condition. *Science Journal*, 2: 71-75. (in Thai)
- Cheung, P.Y. and Kinkle, B.K. 2001. *Mycobacterium* diversity and pyrene mineralisation in petroleum-contaminated soil. *Applied and Environmental Microbiology*, 67: 222-229.
- Cohen, Y., Jørgensen, B.B., Padan, E. and Shilo, M. 1975b. Sulphide-dependent anoxygenic photosynthesis in the cyanobacterium *Oscillatoria limnetica*. *Nature*, 257: 489-492.
- Cohen, Y., Padan, E. and Shilo, M. 1975a. Facultative anoxygenic photosynthesis in the cyanobacterium *Oscillatoria limnetica*. *Journal of Bacteriology*, 123: 855-861.
- Curtis, T.P. and Craine, N.G. 1998. The comparison of the diversity of activated sludge plants. *Water Science and Technology*, 37: 71-78.
- DeLong, E.F. 1992. Archaea in coastal marine environments. *Proceedings of the National Academy of Sciences of the United States of America*, 89: 5685-5689.
- Desikachary, T.V. *Cyanophyta*. New Delhi: Indian Council of Agricultural Research, 1959.
- Diez, B., Pedros-Alio, C., Marsh, T.L. and Massana, R. 2001. Application of denaturing gradient gel electrophoresis (DGGE) to study the diversity of marine picoeukaryotic assemblages and comparison of DGGE with other techniques. *Applied and Environmental Microbiology*, 67(7): 2942-2951.
- Dunbar, J., Barns, S.M., Ticknor, L.O. and Kuske, C.R. 2002. Empirical and theoretical bacterial diversity in four Arizona soils. *Applied and Environmental Microbiology*, 68(6): 3035-3045.
- Dvornyk, V. and Nevo, E. 2003. Genetic polymorphism of cyanobacteria under permanent stress: A lesson from the "Evolution Canyons". *Research in Microbiology*, 154: 79-84.

- Edwards, C. (1990). Thermophiles. in Edwards, C. (ed.), *Microbial of extreme environments* (pp.1-32), Buckingham: Open University Press.
- Embry, T.M. and Stackebrandt, E. (1997). Species in practice: exploring uncultured prokaryote diversity in natural samples. in Claridge, M.F., Dawah, H.A. and Wilson, M.R. (eds.), *Species: The units of biodiversity* (pp. 61-81), London: Chapman and Hall.
- Engelen, B., Meinken, K., von Wintzingerode, F., Heuer, H., Malkomes, H-P and Backhaus, H. 1998. Monitoring impact of pesticide treatment on bacterial soil communities by metabolic and genetic fingerprinting in addition to conventional testing procedures. *Applied and Environmental Microbiology*, 64: 4396-4402.
- Felsenstein, J. 1985. Confidence limits on phylogeny: an appropriate use of the bootstrap. *Evolution*, 39:783-791.
- Ferris, M.J., Ruff-Roberts, A.L., Kopczynski, E.D., Bateson, M.M., and Ward, D.M. 1996a. Enrichment culture and microscopy conceal diverse thermophilic *Synechococcus* populations in a single hot spring microbial mat habitat. *Applied and Environmental Microbiology*, 62: 1045-1050.
- Ferris, M. J., Muyzer, G. and Ward, D. M. 1996b. Denaturing gradient gel electrophoresis profiles of 16S rRNA-defined populations inhabiting a hot spring microbial mat community. *Applied and Environmental Microbiology*, 62(2): 340-346.
- Ferris, M. J. and Ward, D. M. 1997. Seasonal distributions of dominant 16S rRNA-defined populations in a hot spring microbial mat examined by denaturing gradient gel electrophoresis. *Applied and Environmental Microbiology*, 63(4): 1375-1381.
- Ferris, M. J., Nold, S. C., Revsbech, N. P. and Ward, D. M. 1997. Population structure and physiological changes within a hot spring microbial mat community following disturbance. *Applied and Environmental Microbiology*, 63(4): 1367-1374.
- Ferris, M.J., Kühl, M., Wieland, A. and Ward, D.M. 2003. Cyanobacterial ecotypes in different optical microenvironments of a 68°C hot spring mat community revealed by 16S-23S rRNA internal transcribed spacer region variation. *Applied and Environmental Microbiology*, 69(5): 2893-2898.

- Forestier, N., Steinmann, P., Lazko, E., Aragno, M. and Rossi, P. 2002. Combined statistical analysis of bacterial community structures from an eutrophic lake revealed by DGGE, PLFA and chemical analysis. In Abstracts Book 61st Annual Assembly of Swiss Society for Microbiology, Luzern, Switzerland, pp. 43.
- Fox, G. E., Wisotzkey, J. D. and Jurtshuk, P. 1992. How close is close: 16S rRNA sequence identity may not be sufficient to guarantee species identity. *International Journal of Systematic Bacteriology*, 42:166–70.
- Fuhrman, J.A., McCallum, K. and Davis A.A. 1992. Novel major archae-bacterial group from marine plankton. *Nature*, 356: 148-149.
- Garcia-Pichel, F., Profert-Bebout, L. and Muyzer, G. 1996. Phenotypic and phylogenetic analyses show *Microcoleus chthonoplastes* to be a cosmopolitan cyanobacterium. *Applied and Environmental Microbiology*, 62: 3284-3291.
- Garcia-Pichel, F., Lopez-Cortes, A. and Nubel, U. 2001. Phylogenetic and morphological diversity of cyanobacteria in soil desert crusts from the Colorado Plateau. *Applied and Environmental Microbiology*, 67(4): 1902–1910.
- Geitler, L. (1932). Cyanophyceae. in Rabenhorst, L. (ed.), *Rabenhorst's Kryptogamenflora von Deutschland, Österreich und der Schweiz, Vol. 14* (pp. 1-1196), Leipzig: Akademisches Verlagsgesellschaft.
- Giovannoni, S.J., Britschgi, T.B., Moyer, C.L. and Field, K.G. 1990. Genetic diversity in Sargasso Sea bacterioplankton. *Nature*, 345: 60-63.
- Goodfellow, M., Manfio, G.P. and Chun, J. (1997). Towards a practical species concept for cultivable bacteria. in Claridge M.F. and Dawah H.A. (eds.), *Species: The unit of biodiversity* (pp. 25-59), London: Chapman and Hall.
- Hall, B.G. *Phylogenetic Trees Made Easy: A How-to Manual for Molecular Biologists*. Sunderland, Massachusetts: Sinauer Associates, 2001.
- Hall, T.A. 1999. BioEdit: a user-friendly biological sequence alignment editor and analysis program for Windows 95/98/NT. *Nucleic Acids Symposium Ser.*, 41: 95–98.
- Head, I.M., Saunders, J.R. and Pickup, R.W. 1998. Microbial evolution, diversity, and ecology: a decade of ribosomal RNA analysis of uncultivated microorganisms. *Microbial Ecology*, 35: 1-21.

- Heuer, H., Krsek M., Baker, P., Smalla, K. and Wellington, E.M.H. 1997. Analysis of Actinomycete communities by specific amplification of genes encoding 16S rRNA and gel-electrophoresis separation in denaturing gradients. *Applied and Environmental Microbiology*, 63: 3233-3241.
- Hillis, D.M., Moritz, C. and Mable, B.K. (1996). Applications of molecular systematics. in Hillis D.M., Moritz C. and Mable B.K. (eds.), *Molecular systematics* (pp. 515-543), Sunderland, Massachusetts, Sinauer Associates.
- Hoffmann, L. 1988. Criteria for the classification of blue-green algae (cyanobacteria) at the genus and at the species level. *Archiv für Hydrobiologie/Algological Studies*, 80(1-4): 131-139.
- Hongmei, J. Aitchison, J.C., Lacap, D.C., Peerapornpisal, Y., Sompong, U. and Pointing, S.B. 2005. Community phylogenetic analysis of moderately thermophilic cyanobacterial mats from China, the Philippines and Thailand. *Extremophiles*, 9: 325–332.
- Janse, I., Bok, J. and Zwart, G. 2004. A simple remedy against artifactual double bands in denaturing gradient gel electrophoresis. *Journal of Microbiological Methods*, 57: 279-281.
- Ji, N., Peng, B., Wang, S. and Peng, X. 2004. Universal primer PCR with DGGE for rapid detection of bacterial pathogens. *Journal of Microbiological Methods*, 57(3): 409-413.
- Kanokratana, P., Chanapan, S., Pootanakit, K. and Eurwilaichitr, L. 2004. Diversity and abundance of *Bacteria* and *Archaea* in the Bor Khlueng Hot Spring in Thailand. *Journal of Basic Microbiology*, 44(6): 430-444.
- Kimura, M. 1980. A simple method for estimating evolutionary rate of base substitutions through comparative studies of nucleotide sequences. *Journal of Molecular Evolution*, 16:111-120.
- Komárek, J. and Anagnostidis, K. 1989. Modern approach to the classification system of cyanobacteria 4. Nostocales. *Archiv für Hydrobiologie/Algological Studies*, 56: 247-345.
- Komarek, J. 1994. Current trends and species delimitation in the cyanoprokaryote taxonomy. *Archiv für Hydrobiologie/Algological Studies*, 75: 11-29.

- Komárek, J. and Anagnostidis, K. *Cyanoprokaryota : Chroococcales, 1 . Teil*, Stuttgart: Gustav Fischer Verlag Jena, 1999.
- Komarek, J. (2003). Coccoid and colonial cyanobacteria. in Wehr, J.D. and Sheath, R.G. (eds.), *Freshwater algae in north America: Ecology and classification* (pp.59-116), San Diego, California: Academic Press.
- Komárek, J., Komarkova, J. and Kling, H. (2003). Filamentous cyanobacteria. in Wehr J. D. and Sheath R.G. (eds.), *Freshwater algae in north America: Ecology and classification* (pp. 117-196), California: Academic Press.
- Kováčik, L. 1988. Cell division in simple coccid cyanophytes. *Archiv für Hydrobiologie/Algological Studies*, 80(1-4): 149-190.
- Kumar, S., Tamura, K., and Nei, M. 2004. MEGA 3: Integrated software for molecular evolutionary genetics analysis and sequence alignment. *Briefings in Bioinformatics*, 5: 150-163.
- Li, W.H. *Molecular Evolution*. Sunderland, MA: Sinauer Associates, 1997.
- Litvaitis, M.K. 2002. A molecular test of cyanobacterial phylogeny: inferences from constraint analyses. *Hydrobiologia*, 468: 135-145.
- Liu, W. and Stahl, D.A. (2002). Molecular approaches for the measurement of density, diversity, and phylogeny. in Hurst, C.J., Crawford, R.L., Knudsen G.R., McInerney, M.J. and Stetzenbach, L.D. (eds.), *Manual of environmental microbiology: second edition* (pp. 114-134), Washington DC: ASM Press.
- Ludwig, W., Strunk, O., Klugbauer, N., Weizenegger, M., Neumaier, J., Bachleitner, M. and Schleifer, K.H. 1998. Bacterial phylogeny based on comparative sequence analysis. *Electrophoresis*, 19: 554-568.
- Marteinsson, V.T., Hauksdottir, S., Hobel, C.F.V., Kristmannsdottir, H., Hreggvidsson, G.O. and Kristjansson, J.K. 2001. Phylogenetic diversity analysis of Subterranean Hot Springs in Iceland. *Applied and Environmental Microbiology*, 67(9): 4242-4248.
- Mazel, D., Houmard, J., Castets, A.M. and Taodeau de Marsac, N. 1990. Highly repetitive DNA sequences in cyanobacterial genomes. *Journal of Bacteriology*, 172: 2755-2761.

- Miller, S.R. and Castenholz, R.W. 2000. Evolution of thermotolerance in hot spring cyanobacteria of the genus *Synechococcus*. *Applied and Environmental Microbiology*, 66(10): 4222-4229.
- Moyer, C.L., Dobbs, F.C. and Karl, D.M. 1995. Phylogenetic diversity of the bacterial community from a microbial mat at an active, hydrothermal vent system, Loihi Seamount, Hawaii. *Applied and Environmental Microbiology*, 61: 1555-1562.
- Muyzer, G., De Waal, E.C. and Uitterlinden, A.G. 1993. Profiling of complex microbial populations by denaturing gradient gel electrophoresis analysis of polymerase chain reaction-amplified genes coding for 16S rRNA. *Applied and Environmental Microbiology*, 59: 695-700.
- Muyzer, G., Teske, A., Wirsén, C.O. and Jannasch, H.W. 1995. Phylogenetic relationships of *Thiomicrospira* species and their identification in deep-sea hydrothermal vent samples by denaturing gradient gel electrophoresis of 16S rDNA fragments. *Arch. Microbiol.*, 164: 165-171.
- Muyzer, G., Brinkhoff, T., Nubel, U., Santegoeds, C., Schafer, H. and Wawer, C. (1997). Denaturing gradient gel electrophoresis (DGGE) in microbial ecology. in Akkermans, A.D.L., Elsas, J.D. and de Bruijn F.J. (eds.), *Molecular microbial ecology manual*, vol. 3.4.4 (pp. 1-27), Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Muyzer, G. and Smalla, K. 1998. Application of denaturing gradient gel electrophoresis (DGGE) and temperature gradient gel electrophoresis (TGGE) in microbial ecology. *Antonie van Leeuwenhoek*, 73: 127-141.
- Muyzer, G. 1999. DGGE/TGGE a method for identifying genes from natural ecosystems. *Current Opinion in Microbiology*, 2: 317-322.
- Nei, M. and Kumar, S. *Molecular Evolution and Phylogenetics*. New York: Oxford University Press, 2000.
- Newton, C.R. and Graham, A. *PCR*. Oxford: BIOS Scientific Publishers, 1997.
- Norris, T.B., McDermott, T.R. and Castenholz, R.W. 2002. The long-term effects of UV exclusion on the microbial composition and photosynthetic competence of cyanobacteria in hot spring microbial mats. *FEMS Microbiology Ecology*, 1323: 1-17.

- Nübel, U., Garcia-Pichel, F. and Muyzer, G. 1997. PCR primers to amplify 16S rRNA genes from cyanobacteria. *Applied and Environmental Microbiology*, 63(8): 3327-3332.
- Olsen, G.J. 1988. Phylogenetic analysis using ribosomal RNA. *Methods in Enzymology*, 164: 793-812.
- Olsen, G.J., Lane D.J., Giovannoni, S.J. and Pace, N.R. 1986. Microbial ecology and evolution: a ribosomal approach. *Annual Review of Microbiology*, 40:337-365.
- Oren, A. and Seckbach, J. 2001 Oxygenic photosynthetic microorganisms in extreme environments. *Nova Hedwigia, Beiheft*, 123: 13-31.
- Palenik, B. and Swift, H. 1996. Cyanobacterial evolution and prochlorophyte diversity as seen in DNA-dependent RNA polymerase gene sequences. *Journal of Phycology*, 32: 638-646.
- Palinska, K.A., Liesack, W., Rhiel, E. and Krumbein, W.E. 1996. Phenotype variability of identical genotypes: the need for a combined approach in cyanobacterial taxonomy demonstrated on *Merismopedia*-like isolates. *Archives of Microbiology*, 166:224–33.
- Papke, R.T., Ramsing, N.B., Bateson, M.M. and Ward, D.M. 2003. Geographical isolation in hot spring cyanobacteria. *Environmental Microbiology*, 5(8): 650-659.
- Pearson, J.E. and Kingsbury, J.M. 1966. Culturally induced variation in four morphologically diverse blue-green algae. *American Journal of Botany*, 53: 192-200.
- Pennanen, T., Caul, S., Daniell, T.J., Griffiths, B.S., Ritz, K. and Wheatley, R.E. 2004. Community-level responses of metabolically-active soil microorganisms to the quantity and quality of substrate inputs. *Soil Biology and Biochemistry*, 36(5): 841-848.
- Pentecost, A. 2003. Cyanobacteria associated with hot spring travertines. *Canadian Journal of Earth Sciences*, 40: 1447-1457.
- Pitugvapi, P. (1990). *Ecology of algae in hot spring area at Ban Pong-Hom Amphoe San Kamphaeng Changwat Chiang Mai*. Master's Thesis, Department of Biology, Faculty of Science, Chiang Mai University, Chiang Mai. (in Thai)

- Radl, V., Pritsch K., Munch, J.C. and Schloter, M. 2005. Structural and functional diversity of microbial communities from a lake sediment contaminated with trenbolone, an endocrine-disrupting chemical. *Environmental Pollution*, 137:345-353.
- Rainey, F.A., Ward, N., Sly, L.I. and Stackebrandt, E. 1994. Dependence of the taxonomic composition of clone libraries for PCR-amplified naturally occurring 16S rDNA on the primer pair and the cloning system used. *Experientia*, 50:789–801.
- Raksaskulwong, M. 2000. Current issues of the hot spring distribution map in Thailand. Proceeding of World Geothermal Congress 2000. Kyushu-Tohoku, Japan, May 28–June 10, 1611–1614.
- Rippka, R., Deruelles, J.B., Waterbury, J.B., Herdman, M., Stanier, R.Y. 1979. Generic assignments, strain histories and properties of pure cultures of cyanobacteria. *Journal of General Microbiology*, 111: 1-61.
- Rossello-Mora, R. and Amann, R. 2001. The species concept for prokaryotes. *FEMS Microbiology Reviews*, 25: 39-67.
- Saiki, R.K., Scharf, S., Faloona, F., Mullis, K.B., Horn, G.T. Erlich, H.A. and Arnheim, N. 1985. Enzymatic amplification of β -Globulin genomic sequences and restriction site analysis for diagnosis of sickle cell anemia. *Science*, 230: 1350-1354.
- Saiki, R.K., Gelfand, D.H., Stoffel, S. Scharf, S.J., Higuchi, R., Horn, G.T., Mullis, K.B. and Erlich, H.A. 1988. Primer-detected enzymatic amplification of DNA with a thermostable DNA polymerase. *Science*, 239: 487-491.
- Saitou, N. and Nei, M. 1987. The neighbor-joining method : a new method for reconstructing phylogenetic trees. *Molecular Biology and Evolution*, 4: 406-425.
- Sanmanee, N. *Environmental Chemistry*. Nakhon Pathom: Silapakorn University, 1998. (in Thai)
- Sekiguchi, H., Tomioka, N., Nakahara, T. and Uchiyama, H. 2001. A single band does not always represent single bacterial strains in denaturing gradient gel electrophoresis. *Biotechnology Letters*, 23: 1205-1208.
- Shaw, P.J.A. *Multivariate Statistics for the Environmental Sciences*. New York: Oxford University Press Inc., 2003.

- Sheffield, V.C., Cox, D.R., Lerman, L.S. and Myers, R.M. 1989. Attachment of a 40-basepair G+C-rich sequence (GC-clamp) to genomic DNA fragments by the polymerase chain reaction results in improved detection of single-base changes. *Proceedings of the National Academy of Sciences of the United States of America*, 86: 232-236.
- Skirnisdottir, S., Hreggvidsson, G.O., Hjörleifsdottir, S., Marteinson, V.T., Petrsdottir, S.K., Holst, O. and Kristjansson, J.K. 2000. Influence of sulfide and temperature on species composition and community structure of hot spring microbial mats. *Applied and Environmental Microbiology*, 66(7): 2835-2841.
- Sompong, U., Hawkins, P.R., Besley, C. and Peerapornpisal, Y. 2005. The distribution of cyanobacteria across physical and chemical gradients in hot springs in northern Thailand. *FEMS Microbiology Ecology*, 52: 365–376.
- Speksnijder, A., Kowalchuk, G.A., De Jong, S., Kline, E., Stephen, J.R. and Laanbroek, H.J. 2001. Microvariance artifacts introduced by PCR and cloning of closely related 16S rRNA gene sequences. *Applied and Environmental Microbiology*, 67: 269-472.
- Stackebrandt, E. and Gobel, U.B. 1994. Taxonomic note: a place for DNA-RNA reassociation and 16SrRNA sequence analysis in the present species definition in bacteriology. *International Journal of Systematic Bacteriology*, 4: 846-849.
- Suzuki, M.T., and Giovannoni, S.J. 1996. Bias caused by template annealing in the amplification of mixtures of 16S rRNA genes by PCR. *Applied and Environmental Microbiology*, 62:625–630.
- Swofford, D.L., Olson, G.J., Waddell, P.J. and Hillis, D.M. (1996). Phylogenetic inference. in Hillis D.M., Moritz C. and Mable B.K. (eds.), *Molecular systematics* (pp. 407-514), Sunderland, Massachusetts: Sinauer Associates.
- Ter Braak, C.J.F. 1986. Canonical correspondence analysis: A new eigenvector technique for multivariate direct gradient analysis. *Ecology*, 67: 1167-1179.
- Turner, S. 1997. Molecular systematics of oxygenic photosynthetic bacteria. *Plant Systematics and Evolution Supplement*, 11: 13-52.

- Van Hannen, E.J., Van Agerveld, M.P., Gons, H.J. and Laanbroek, H.J. 1998. Revealing genetic diversity of eukaryotic microorganisms in aquatic environments by denaturing gradient gel electrophoresis. *Journal of Phycology*, 34: 206-213.
- Vandamme, P., Pot, B., Gillis, M., De Vos, P. and Swings, J. 1996. Polyphasic taxonomy, a consensus approach to bacterial systematics. *Microbiological Reviews*, 60: 407-438.
- Vanhoutte, T., Huys, G., De Brandt, E. and Swings, J. 2004. Temporal stability analysis of the microbiota in human faeces by denaturing gradient gel electrophoresis using universal and group specific 16S rRNA gene primers. *FEMS Microbiology Ecology*, 48(3): 437-446.
- Vincent, W.F. and Howard-Williams, C. 2001. Algae in environments with extreme temperatures. *Nova Hedwigia, Beiheft*, 123: 33-36.
- Ward, D.M., Weller, R. and Bateson, M.M. 1990. 16S Ribosomal RNA sequences reveal numerous uncultured microorganisms in a natural community. *Nature*, 345: 63-65.
- Ward, D.M., Bateson, M.M., Weller, R. and Ruff-Roberts, A. L. (1992). Ribosomal RNA analysis of microorganisms as they occur in nature. in Marshal, K.C. (ed.), *Advances in microbial ecology* (pp.219-286), New York, Plenum Press.
- Ward, D.M., Ferris, M. J., Nold, S.C., Bateson, M.M., Kopczynski, E. D. and Ruff-Roberts, A.L. (1994). Species diversity in hot spring microbial mats as revealed by both molecular and enrichment culture approaches-relationship between biodiversity and community structure. in Stal, L.J. and Caumette, P. (eds.), *Microbial mats: structure, development and environmental significance* (pp. 33-44), Heidelberg, Germany: Springer-Verlag.
- Ward, D.M., Ferris, M.J., Nold, S.C. and Bateson, M.M. 1998. A natural view of microbial biodiversity within hot spring cyanobacterial mat communities. *Microbiology and Molecular Biology Reviews*, 62 (4): 1353-1370.
- Ward, D.M. and Castenholz, R.W. (2000). Cyanobacteria in geothermal habitats. in Whitton B. A. and Potts M. (eds.), *Ecology of cyanobacteria: Their diversity in time and space* (pp. 37-59), Dordrecht: Kluwer Academic Publishers.

- Whitton, B.A. (1992). Diversity, ecology and taxonomy of cyanobacteria. in: Mann, N.H. and Carr, N.G. (eds.) *Photosynthetic prokaryotes* (pp. 1-51), New York: Plenum Press.
- Whitton, B.A. and Potts, M. (2000). Introduction to the cyanobacteria. in Whitton, B.A. and Potts, M. (eds.), *The ecology of cyanobacteria: Their diversity in time and space* (pp. 1-11), Dordrecht: Kluwer Academic Publishers.
- Whitton, B.A. (2002). Phylum cyanophyta (Cyanobacteria). in John, D.M., Whitton, B.A. and Brook, A.J. (eds.) *The freshwater algal flora of the British Isles* (pp. 25-122), Cambridge: Cambridge University Press.
- Willmotte, A. and Golubic, S. 1991. Morphological and genetic criteria in the taxonomy of cyanophyta / cyanobacteria. *Archive für Hydrobiologie/Algological Studies*, 92: 1-24.
- Willmotte, A. (1994). Molecular evolution and taxonomy of the cyanobacteria. in Bryant, D.A. (ed), *The molecular biology of cyanobacteria* (pp. 1-25), Dordrecht: Kluwer Academic Publishers.
- Woese C.R. 1987. Bacterial evolution. *Microbiological Reviews*, 51(2): 221-271.