

LITERATURE CITED

- Acquaye, K., G. Dowuona, A. Mermut and R.St. Arnaud. 1992. Micromorphology and mineralogy of cracking soils from the Accra Plains of Ghana. **Soil Sci. Soc. Am. J.** 56: 193-201.
- Agbenin, J.O. 2003. Extractable iron and aluminium effects on phosphate sorption in a Savanna Alfisol. **Soil Sci. Soc. Am. J.** 67: 589-595.
- Alloway, B.J. 1995. The origins of heavy metals in soils, pp. 38-57. In B.J. Alloway, ed. **Heavy Metals in Soils**. Blackie Academic and Professional Publ., New York.
- Arduino, E. 1984. Estimating relative ages from iron-oxide/total-iron ratios of soils in the western Po valley, Italy. **Geoderma** 33: 39-52.
- Aylmore, L.A.G., I.D. Sills and J.P. Quirk. 1970. Surface area of homoionic illite and montmorillonite clay mineral as measured by the sorption of nitrogen and carbon dioxide. **Clays Clay Minerals** 18: 91-96.
- Badraoui, M. and P.R. Bloom. 1990. Iron-rich high charge beidellite in Vertisols and Mollisols of the high Chaouia region of Morocco. **Soil Sci. Soc. Am. J.** 54: 267-274.
- _____, P.R. Bloom and R.H. Rust. 1987. Occurrence of high-charge beidellite in a Vertic Haplaquoll of Northwestern Minnesota. **Soil Sci. Soc. Am. J.** 51: 813-818.
- Bahmaniar, M.N. and S.K.H. Mirnia. 2002. The effects of different waterlogging periods on morphology and clay mineralogy of paddy soils, pp. 359.1-359.8. In **Proceedings of 17th World Congress of Soil Science, 14-20 August 2002, Symposium No. 18**. Bangkok, Thailand.

- Bajwa, M.I. 1981. Soil clay mineralogy in relation to fertility management: Effect of soil clay mineral composition on potassium fixation under conditions of upland rice soils. **Fertilizer Research** 2: 193-197.
- _____. 1982. Soil clay mineralogies in relation to fertility management: Effect of clay mineral types on ammonium fixation under conditions of wetland rice culture. **Agron. J.** 74: 143-144.
- Beaufort, D., G. Berger, J.C. Lachapagne and A. Meunier. 2001. An experimental alteration of montmorillonite to a di+trioctahedral smectite assemblage at 100 and 200°C. **Clay Miner.** 36: 211-225.
- Beery, M. and L.P. Wilding. 1971. The relationship between soil pH and base saturation percentage for surface and subsoil horizons of selected Mollisols, Alfisols, and Ultisols in Ohio. **The Ohio Journal of Science** 71: 43-55.
- Bellehumeur, C., D. Marcotte and M. Jébrak. 1994. Multi-element relationship and spatial structures of regional geochemical data from stream sediments, Southwestern Quebec, Canada. **J. Geochem. Explor.** 51: 11-35.
- Birnie, A.C. and E. Paterson. 1991. The mineralogy and morphology of iron and manganese oxides in an imperfectly-drained Scottish soil. **Geoderma** 50: 219-237.
- Blake, G.R. and K.H. Hartge. 1986. Bulk density, pp. 363-375. In A. Klute, ed. **Methods of Soil Analysis, Part I. Physical and Mineralogical Methods.** 2nd ed. Amer. Soc. Agron. Inc., Madison, Wisconsin, USA.
- Blume, H.P. and U. Schwertmann. 1969. Genetic evaluation of the profile distribution of aluminium, iron and manganese oxides. **Soil Sci. Soc. Am. J.** 33: 438-444.

- Bockheim, J.G., J.G. Marshall and H.M. Kelsey. 1996. Soil forming processes and rates on uplifted marine terraces in southwestern Oregon, USA. **Geoderma** 73: 39-62.
- Bohn, G.L., B.L. McNeal and G.A. O'Connor. 1985. **Soil Chemistry**. John Wiley & Sons, Inc., New York.
- Boixadera, J., R.M. Poch, M.T. García-González and C. Vizcayno. 2003. Hydromorphic and clay-related processes in soils from the Llanos de Moxos (northern Bolivia). **Catena** 54: 403-424.
- Bonifacio, E., E. Zanini, V. Boero and M. Franchini-Angela. 1997. Pedogenesis in a soil catena on serpentinite in north-western Italy. **Geoderma** 75: 33-51.
- Boonsompoppunth, B. 1984. Toposequence of soil in Nakhon Ratchasima province the Northeast, Thailand, pp. B1.1-B1.15. In S. Panichapong, C. Niamskul, A. Promprasit and M. Newport, eds. **Proceedings of the Fifth ASEAN Soil Conference**. Bangkok, Thailand.
- Borchardt, G. 1989. Smectite, pp. 675-728. In J.B. Dixon and S.B. Weed, eds. **Minerals in Soil Environments**. Soil Science Society of America, Madison, Wisconsin, USA.
- Brady, N.C. and R.R. Weil. 2002. **The Nature and Properties of Soils**. Prentice Hall, Upper Saddle River, New Jersey.
- Bray, R.A. and L.T. Kurtz. 1945. Determination of total organic and available form of phosphorus in soil. **Soil Sci.** 59: 39-45.

- Bremner, J.M. 1996. Nitrogen-total, pp. 1085-1121. In D.L. Sparks, A.L. Page, P.A. Helmke, R.H. Loeppert, P.N. Soltanpour, M.A. Tabatabai, C.T. Johnston and M.E. Sumner, eds. **Methods of Soil Analysis, Part III. Chemical Methods**. Amer. Soc. Agron. Inc., Madison, Wisconsin, USA.
- Brinkman, R. 1970. Ferrolysis, a hydromorphic soil forming process. **Geoderma** 3: 199-206.
- _____. 1977. Surface-water gley soils in Bangladesh: Genesis. **Geoderma** 7: 111-144.
- Brown, D.J., M.K. Clayton and K. McSweeney. 2004. Potential terrain controls on soil color, texture contrast and grain-size deposition for the original catena landscape in Uganda. **Geoderma** 122: 51-72.
- Brown, G. and G.W. Brindley. 1980. X-ray diffraction procedures for clay mineral identification, pp. 305-359. In G.W. Brindley and G. Brown, eds. **Crystal Structures of Clay Minerals and Their X-ray Identification**. Mineralogical Society, London.
- _____, A.C.D. Newman, J.H. Rayner and A.H. Weir. 1978. The structures and chemistry of soil clay minerals, pp. 29-179. In D.J. Greenland and M.H.B. Hayes, eds. **The Chemistry of Soil Constituents**. John Wiley and Sons, London.
- Brunauer, S., P.H. Emmett and E. Teller. 1938. Adsorption of gases in multimolecular layers. **J. Am. Chem. Soc.** 60: 309-319.
- Bullock, P.N. and M.L. Thompson. 1985. Micromorphology of Alfisols, pp. 17-47. In L.A. Douglas and M.L. Thompson, eds. **Soil Morphology and Soil Classification**. SSSA Special Publication, Madison.

- Bullock, P.N., N. Fédoroff, A. Jongerius, G. Stoops, T. Tursina and U. Babel. 1985. **Handbook for Soil Thin Section Description**. Waine Research Pub., Albrighton, England.
- Bunopas, S. 1983. Paleozoic succession in Thailand, pp. 39-76. In P. Nutalaya, ed. **Proceedings of the Workshop on Stratigraphic Correlation of Thailand and Malaysia**. Geological Societies of Thailand and Malaysia, Haad Yai, Thailand.
- Buol, S.W., R.J. Southard, R.C. Graham and P.A. McDaniel. 2003. **Soil Genesis and Classification**. Iowa State Press, Ames, Iowa, USA.
- Bushnell, T.M. 1945. The catena-drainage profile key-form as a frame of reference in soil classification. **Soil Sci. Soc. Am. Proc.** 9: 219-222.
- Calvet, R. and R. Prost. 1971. Cation migration into empty octahedral sites and surface properties of clays. **Clays Clay Miner.** 19: 175-186.
- Chainaronk, P. 2001. **A Study on Soil Characteristics Determining Potential of First Class Paddy Lands in Central Thailand**. M.S. Thesis, Kasetsart University.
- Chandrajith, R., C.B. Dissanayake and H.J. Tobschall. 2005. The abundances of rarer trace elements in paddy (rice) soils of Sri Lanka. **Chemosphere** 58: 1415-1420.
- Changprai, C. 1987. **The Relationships between Soils and Soil Forming Factors**. Dep. Land Dev., Thailand. (in Thai).
- Chapman, H.D. 1965. Cation exchange capacity, pp. 891-901. In C.A. Black, ed. **Methods of Soil Analysis, Part II. Chemical and Microbiological Properties**. 2nd ed. Amer. Soc. Agron. Inc., Madison, Wisconsin, USA.

- Charusiri, P., S. Imsamut, Z. Zhuang, T. Ampaiwan and X. Xu. 2006. Paleomagnetism of the earliest Cretaceous to early late Cretaceous sandstones, Khorat Group, Northeast Thailand: Implications for tectonic plate movement of the Indochina block. **Gondwana Res.** 9: 310-325.
- Chaudhri, N., P. Kaur, M. Okrusch and A. Schimrosczyk. 2003. Characterisation of the Dabla Granitoids, North Khetri Copper Belt, Rajasthan, India: Evidence of Bimodal Anorogenic Felsic Magmatism. **Gondwana Res.** 6: 879-895.
- Chen, C., F.T. Turner and J.B. Dixon. 1989. Ammonium fixation by high-charge smectite in selected Texas Gulf Coast soils. **Soil Sci. Soc. Am. J.** 53: 1035-1040.
- Ciolkosz, E.J., W.J. Waltman, T.W. Simpson and R.R. Dobos. 1989. Distribution and genesis of soils of the northeastern United States. **Geomorphology** 2: 285-302.
- Cody, R.D. and A.M. Cody. 1988. Gypsum nucleation and crystal morphology in analog saline terrestrial environments. **J. Sediment Petrol.** 58: 247-255.
- Collins, J.F. and S.W. Buol. 1970. Effects of fluctuations in the Eh-pH environment on iron and/or manganese equilibria. **Soil Sci.** 110: 111-118.
- Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe. 1979. **Classification of Wetlands and Deepwater Habitats of the United States.** Publ. No. FWS/OBS-79/31. U.S. Fish and Wildlife Service, Washington, D.C.
- Cravero, F., I. Gonzalez, E. Galan and E. Dominguez. 1997. Geology, mineralogy, origin and possible applications of some Argentinian kaolins in the Neuquen basin. **Appl. Clay Sci.** 12: 27-42.

- Dabbakula, M., P. Moncharoen, K. Yoothong, P. Vijarnsorn, L. Moncharoen and H. Eswaran. 1992. Microvariability in Vertisols, p. 60. In C.J. Chartres, ed. **Proc. 7th Working Meet. Soil Micromorphology**. Townsville, Aust.
- Dahlgren, R.A., J.L. Boettinger, G.L. Huntington and R.G. Amundson. 1997. Soil development along an elevation transect in the Western Sierra Nevada, California. **Geoderma** 78: 207-236.
- Daniels, R.B., E.E. Gamble and S.W. Buol. 1973. Oxygen content in the groundwater of some North Carolina Aquifers and Udufts, pp. 153-156. In R.R. Bruce, ed. **Field Soil Water Regimes**. SSSA Spec. Publ. 5. SSSA, Madison, WI.
- Darmody, R.G., C.E. Thorn, J.C. Dixon and P. Schlyter. 2000. Soils and landscapes of Kärkevagge, Swedish Lapland. **Soil Sci. Soc. Am. J.** 64: 1455-1466.
- Davis, J.C. 1986. **Statistics and Data Analysis in Geology**. John Wiley & Sons, New York.
- Dheeradilok, P. 1986. Review of Quaternary geological mapping and research in Thailand, pp. 141-167. In F.W. Wezel and J.L. Rau, eds. **CCOP Proc. on Developments in Quaternary Geological Research in East and Southeast Asia During the Last Decade**. Bangkok, Thailand.
- _____, T. Wongwanich, W. Tansathien and P. Chaodumrong. 1992. An introduction to geology of Thailand, pp. 737-752. In C. Piancharoen, ed. **Proceedings of a National Conference on 'Geologic resources of Thailand, Potential for Future Development 17-24 November, 1992**. Department of Mineral Resource, Bangkok, Thailand.
- Doner, H.E. and W.C. Lynn. 1989. Carbonate, halide, sulfate and sulfide minerals, pp. 279-330. In J.B. Dixon and S.B. Weed, eds. **Minerals in Soil Environments**, SSSA Book Series, Vol. 1. Soil Sci. Soc. Am., Madison, WI.

- Ducloux, J., A. Meunier and B. Velde. 1976. Smectite, chlorite and a regular interlayered chlorite-vermiculite in soils developed on a small serpentinite body Massif Central, France. **Clay Miner.** 11: 121-135.
- _____, Y. Guero and P. Fallavier. 1998. Clay particle differentiation in alluvial soils of southwestern Niger (West Africa). **Soil Sci. Soc. Am. J.** 62: 212-222.
- Egashira, K., K. Aramaki, M. Yoshimasa, A. Takeda and S. Yamasaki. 2004. Rare earth elements and clay minerals of soils of the floodplains of three major rivers in Bangladesh. **Geoderma** 120: 7-15.
- _____, K. Fujii, S. Yamasaki and P. Virakornphanich. 1997. Rare earth element and clay minerals of paddy soils from the central region of the Mekong River, Laos. **Geoderma** 78: 237-249.
- Elless, M.P. and M.C. Rabenhorst. 1994. Micromorphological interpretation of redox processes in soils derived from Triassic reded parent materials, pp. 171-178. In A.J. Ringrose-Voase and G.S. Hwhaumphrey, eds. **Soil Micromorphology: Studies in Management and Genesis**. Developments in Soil Science 22, Elsevier, Amsterdam.
- Essington, M.E. 2004. **Soil and Water Chemistry: An Integrative Approach**. CRC Press, LLC. USA.
- Eswaran, H., P. Moncharoen, P. Reich and E. Padmanaban. 2001. Rice, land and people: The faltering nexus in Asia, pp. 38-66. In **Proc. of the 5th Conference of East and Southeast Asia Federation of Soil Science Society, Krabi, Thailand**. Dept. Agriculture, Bangkok, Thailand.
- Evans, C.V. and D.P. Franzmeier. 1988. Color index values to represent wetness and aeration in some Indiana soils. **Geoderma** 41: 353-368.

- Evans, L.J. 1992. Alteration products at the earth's surface-the clay minerals, pp. 107-125. In I.P. Martini and W. Chesworth, eds. **Weathering Soils & Paleosols**. Elsevier Science Publishers, Amsterdam.
- Fanning, D. and V. Keramidas. 1977. Micas, pp 195-258. In J. Dixon and B. Weed, eds. **Minerals in Soil Environments**. SSSA Book Series, No. 1. Soil Sci. Soc. Am., Madison, WI.
- _____ and M.C.B. Fanning. 1989. **Soil Morphology, Genesis and Classification**. John Wiley and Sons, New York.
- Faure, G. 1998. **Principles and Applications of Geochemistry**. Prentice-Hall, New Jersey.
- Fedoroff, N. 1973. The clay illuviation, pp. 195-207. In St. Kowalinski and J. Drozd, eds. **Soil Morphology**. Wroclaw, Poland.
- Fialips, C.I., D. Huo, L. Yan, J. Wu and J.W. Stucki. 2002. Infrared study of reduced and reduced-reoxidized ferruginous smectite. **Clays Clay Miner.** 50: 455-469.
- Fitzpatrick, E.A. 1993. **Soil Microscopy and Micromorphology**. John Wiley & Sons, New York.
- Fralick, P.W. and B.I. Kronberg. 1997. Geochemical discrimination of clastic sedimentary rock sources. **Sediment Geol.** 113: 111-124.
- Galán, L. de P., J.J. de Pablo and M. de L. Chávez-García. 2002. Clay mineralogy and diagenesis of the Recent-Pleistocene volcanogenic sedimentary sequence of the Mexican Basin. **Revista Mexicana de Ciencias Geológicas** 19: 38-49.

- Gama-Castro, J.E., E. Solleiro-Rebolledo and E. Vallejo-Gómez. 2000. Weathered pumice influence on selected alluvial soil properties in west Nayarit, Mexico. **Soil Till. Res.** 55: 143-165.
- Golsefidi, T.H., M.K. Eghbal, M.J. Givi and H. Khademi. 2001. Clay mineralogy of paddy soils developed on different landforms in the east of Gilan province, northern Iran. **J. Soil Water Sci.** 15: 122-138.
- Gordeev, V.V., V. Rachold and I.E. Vlasova. 2004. Geochemical behaviour of major and trace elements in suspended particulate material of the Irtysh river, the main tributary of the Ob river, Siberia. **Appl. Geochem.** 19: 593-610.
- Greene-Kelly, R. 1955. Dehydration of montmorillonite minerals. **Mineralogical Mag.** 30: 604-615.
- Hart, R.D., R.J. Gilkes, S. Siradz and B. Singh. 2002. The nature of soil kaolins from Indonesia and Western Australia. **Clays Clay Miner.** 50: 198-207.
- _____, W. Wiriyakitnateekul and R.J. Gilkes. 2003. Properties of soil kaolins from Thailand. **Clay Miner.** 39: 71-94.
- Hobson, W.A. and R.A. Dahlgren. 1998. Soil forming processes in Vernal pools of Northern California, Chico Area, pp. 24-37. In C.W. Witham, E.T. Buader, D. Belk, W.R. Ferren, Jr. and R. Ornduff, eds. **Ecology, Conservation and Management of Vernal Pool Ecosystem-Proceedings from a 1996 Conference.** California Native Plant Society, Sacramento, CA.
- Horvath, I. and I. Novak. 1976. Potassium fixation and the charge of the montmorillonite layer, pp. 157-172. In S.W. Bailey, ed. **Proceedings of the International Clay Conference.** Wilmette, Mexico.

- Hseu, Z.Y. and Z.S. Chen. 1996. Saturation, reduction and redox morphology of seasonally flooded Alfisols in Taiwan. **Soil Sci. Soc. Am. J.** 60: 941-949.
- Hughes, J.C. and G. Brown. 1979. A crystallinity index for soil kaolinite and its relation to parent rock, climate and soil maturity. **J. Soil Sci.** 30: 557-563.
- Inoue, A., N. Kohyama, R. Kitagawa and T. Watanabe. 1987. Chemical and morphological evidence for the conversion of smectite to illite. **Clays Clay Miner.** 35: 111-120.
- Jacob, R., F. Aniku and M.J. Singer. 1990. Pedogenic iron oxide trends in a marine terrace chronosequence. **Soil Sci. Soc. Am. J.** 54: 147-152.
- Jacobson, A.D., J.D. Blum, C.P. Chamberlain, M.A. Poage and V.F. Sloan. 2002. The Ca/Sr and Sr isotope systematics of a Himalayan glacial chronosequence: Carbonate versus silicate weathering rates as a function of landscape surface age. **Geochimica et Cosmochimica Acta.** 66: 13-27.
- Jafarzadeh, A.A. and C.P. Burnham. 1992. Gypsum crystals in soils. **J. Soil Sci.** 43: 409-420.
- Jenny, H. 1941. **Factors of Soil Formation.** McGraw-Hill, New York.
- Jepson, W.B. and J.B. Rowse. 1975. The composition of kaolinite - an electron-microprobe study. **Clays Clay Miner.** 23: 310-317.
- Jones, A.A. 1982. X-ray fluorescence spectrometry, pp. 85-121. In A.L. Page, ed. **Methods of Soil Analysis, Part II. Chemical and Microbiological Methods Properties.** 2nd ed. Amer. Soc. Agron. Inc., Madison, Wisconsin, USA.
- Kabata-Pendias, A. 2001. **Trace Elements in Soils and Plants.** CRC Press, LLC. USA.

- Kanchanaprasert, N. 1986. **A Study on Vital Diagnostic Features in Soil Development and Land Potential Evaluation of Alfisols and Inceptisols in Mae Klong Drainage Basin.** Ph.D. Thesis, Kasetsart University, Thailand.
- Kanket, W., A. Suddhiprakarn, I. Kheoruenromne and R. J. Gilkes. 2005. Chemical and crystallographic properties of kaolin from Ultisols in Thailand. **Clays Clay Miner.** 53: 478-489.
- Kanno, I. 1956. A scheme for soil classification of paddy fields with special reference to mineral soils. **Bull. Kyushu Agric. Exp. Stn.** 4: 261-273.
- Karim, Z. 1984. Formation of aluminum-substituted goethite in seasonally waterlogged rice soils. **Soil Sci. Soc. Am. J.** 48: 410-413.
- Kemp, R.A., P.A. McDaniel and A.J. Busacca. 1998. Genesis and relationship of macromorphology and micromorphology to contemporary hydrological conditions of a welded Argixeroll from the Palouse in Idaho. **Geoderma** 83: 309-329.
- Kheoruenromne, I. 1990. **Soil of Thailand Characteristics, Distribution and Uses.** Kasetsart University, Thailand. (in Thai).
- _____. 1999. **Concepts, Principles and Techniques.** Kasetsart University. Bangkok, Thailand. (in Thai).
- _____ and A. Suddhiprakarn. 1984. Genetic differences of selected major Alfisols in western Thailand, pp. B2.1-2.12. In S. Panichapong, C. Niamskul, A. Promprasir and M. Newport, eds. **Proceedings of the Fifth ASEAN Soil Conference.** Bangkok, Thailand.
- Kilmer, V.J. and L.T. Alexander. 1949. Methods of making mechanical analysis of soils. **Soil Sci.** 68: 15-24.

- Klug, H.P. and L.E. Alexander. 1974. **X-ray Diffraction Procedures for Polycrystalline and Amorphous Materials**. John Wiley and Sons, New York.
- Koppi, A.J. and J.O. Skjemstad. 1981. Soil kaolins and their genetic relationship in southeast Queensland, Australia. **J. Soil Sci.** 32: 661-672.
- Krairapanond, A., A. Jugsujinda and W.H. Patrick. 1993. Phosphorus sorption characteristics in acid sulfate soils of Thailand: Effect of uncontrolled and controlled soil redox potential (Eh) and pH. **Plant Soil** 157: 227-237.
- Kraus, M.J. 1997. Lower Eocene alluvial Paleosols: Pedogenic development, stratigraphic relationships and Paleosol/ landscape associations. **Palaeogeography, Palaeoclimatology, Palaeoecology** 129: 387-406.
- Kunze, G.W. 1965. Pretreatments for mineralogical analysis, pp. 568-577. In C.A. Black, ed. **Methods of Soil Analysis, Part I. Physical and Mineralogical Properties Including Statistics of Measurement and Sampling**. Agronomy. Am. Soc. Agron., Madison, WI.
- Kupkanchanakul, T., M. Chinda, N. Muangprasert and P. Limtong. 2001. Soil, fertilizer and environment conservation and protection for rice cultivation in Thailand, pp. 98-121. In O. Suriyaphan, E. Hansakdi, S. Jongruaysup and R. Simmons, eds. **Proceedings of the Fifth ESAFS International Conference on Rice Environments and Rice Products**. Krabi, Thailand.
- Kyuma, K. 2001. Why did monsoon Asia become the rice granary of the world?, pp. 1-11. In O. Suriyaphan, E. Hansakdi, S. Jongrnaysup and R. Simmons, eds. **Proceedings of the Fifth ESAFS International Conference on Rice Environments and Rice Products**. Krabi, Thailand.
- _____. 2004. **Paddy Soil Science**. Kyoto University Press, Japan.

- Lagaly, G. 1994. Layer charge determination by alkylammonium ions, pp. 1-46. In A.R. Mermut, ed. **Layer Charge Characteristics of 2:1 Silicate Clay Minerals**. CMS Workshop Lectures, Volume 6. The Clay Minerals Society, USA.
- Laird, D.A., A.D. Scott and T.E. Fenton. 1989. Evaluation of the alkylammonium method of determining layer charge. **Clays Clay Miner.** 37: 41-46.
- _____, T.E. Fenton and A.D. Scott. 1988. Layer charge of smectites in an Argialboll-Argiaquoll sequence. **Soil Sci. Soc. Am. J.** 52: 463-467.
- Liu, F., R.J. Gilkes, R.D. Hart and A. Bruand. 2002. Differences in potassium forms between cutans and adjacent soil matrix in a Grey Clay Soil. **Geoderma** 106: 289-303.
- Lynch, J. 1999. Additional provisional elemental values for LKSD-1, LKSD-2, LKSD-3, LKSD-4, STSD-1, STSD-2, STSD-3 and STSD-4 Geostandards Newsletter. **The Journal of Geostandards and Geoanalysis** 23: 251-260.
- Madhavaraju, J., S. Ramasamy, A. Ruffell and S.P. Mohan. 2002. Clay mineralogy of the Late Cretaceous and early Tertiary successions of the Cauvery Basin (southeastern India): Implications for sediment source and palaeoclimates at the K/T boundary. **Cretaceous Res.** 23: 153-163.
- Malla, P.B. and L.A. Douglas. 1987. Layer charge properties of smectites and vermiculite: tetrahedral vs octahedral. **Soil Sci. Soc. Am. J.** 51: 1362-1366.
- Manceau, A., L. Charlet, M.C. Boisset, B. Didier and L. Spadini. 1992. Sorption and speciation of heavy metals on hydrous Fe and Mn oxides from microscopic to macroscopic. **Applied Clay Science** 7: 201-223.

- Markewich, H.W. and M.J. Pavich. 1991. Soil chronosequence studies in temperate to subtropical, low-latitude, low-relief terrain with data from the eastern United States. **Geoderma** 51: 213-239.
- _____, M.J. Pavich, M.J. Mausbach, R.G. Johnson and V.M. Gonzalez. 1989. **A Guide for Using Soil and Weathering Profile Data in Chronosequence Studies of the Coastal Plain of the Eastern United States**. U.S. Geol. Surv. Bull. USGS, USA.
- Marques, J.J., D.G. Schulze, N. Curi and S.A. Mertzman. 2004. Trace element geochemistry in Brazilian Cerrado soils. **Geoderma** 121: 31-43.
- Mayayo, M.J., B., Bauluz and J.M. González López. 2000. Variations in the chemistry of smectites from the Calatayud basin (NE Spain). **Clay Miner.** 35: 365-374.
- _____, B., Bauluz, A. López-Galindo and J.M. González-López. 1996. Mineralogy and geochemistry of the carbonates in the Calatayud Basin (Zaragoza, Spain). **Chemical Geology** 130: 123-136.
- McBride, M.B. 1994. **Environmental Chemistry of Soils**. Oxford University Press, New York.
- McBurnett, S.L. and D.P. Franzmeier. 1997. Pedogenesis and cementation in calcareous till in Indiana. **Soil Sci. Soc. Am. J.** 61: 1098-1104.
- McDaniel, P.A. and S.W. Buol. 1991. Manganese distribution in acid soils of the North Carolina Piedmont. **Soil Sci. Soc. Am. J.** 55: 152-158.
- McDonald, R.C., R.F. Isbell, J.G. Speight, J. Walker and M.S. Hopkins. 1990. **Australian Soil and Land Survey: Field Hand Book**. 2nd ed. Inkata Press, Melbourne.

- McFadden, L.D. and D.M. Hendricks. 1985. Changes in the content and composition of pedogenic iron oxyhydroxides in a chronosequence of soils in southern California. **Quat. Res. (NY)** 23: 189-204.
- McKeague, J.A. 1967. An evaluation of 0.1 M pyrophosphate and pyrophosphate dithionite in comparison with oxalate as extractants of the accumulation products in Podzols and some other soils. **Can. J. Soil Sci.** 47: 95-99.
- _____ and J.H. Day. 1966. Dithionite and oxalate extractable Fe and Al as aids in differentiating various classes of soils. **Can. J. Soil Sci.** 46: 13-22.
- Mehra, O. and P. Jackson. 1960. Iron oxide removal from soils and clays in a dithionite-citrate-bicarbonate system buffered with sodium bicarbonate. **Clays Clay Miner.** 7: 317-327.
- Mermut, A. and G. Lagaly. 2001. Baseline studies of the clay minerals society source clays: Layer-charge determination and characteristics of those minerals containing 2:1 layers. **Clays Clay Miner.** 49: 393-397.
- Millot, G. 1970. **Geology of Clays: Weathering, Sedimentology, Geochemistry.** Chapman & Hall, London.
- Nadeau, P.H., V.C. Farmer, W.J. McHardy and D.C. Bain. 1985. Compositional variations of the Unterrupsthal beidellite. **American Mineralogist** 70: 1004-1010.
- Naskręć, H.D. and J. Długosz. 1996. Occurrence and characteristics of layer silicates in alluvial soils from the Lower Wisła river valley, Poland. **Appl. Clay Sci.** 11: 77-83.
- National Research Council. 1995. **Wetland: Characteristics and Boundaries.** National Academy Press, Washington, D.C.

- National Soil Survey Center. 1996. **Soil Survey Laboratory Methods Manual**. Soil Survey Investigations Report No. 42, Version 3.0. Natural Resources Conservation Service, U.S. Department of Agriculture, Washington D.C.
- Nelson, D.W. and L.E. Sommers. 1982. Total carbon, organic carbon, and organic matter, pp. 539-579. In A.L. Page, R.H. Miller and D.R. Keeney, eds. **Methods of Soil Analysis, Part II: Chemical and Microbiological Methods Properties**. Amer. Soc. Agron. Inc., Madison, Wisconsin, USA.
- Nemecz, E. 1981. **Clay Minerals**. Akadémiai Kiadó. Budapest, Hungary.
- Nutalaya, P. and J.L. Rau. 1984. Structural framework of the Chao Phraya Basin, Thailand, pp. 106-129. In **Proc. of the Symposium of Cenozoic Basins**. Chaing Mai University, Thailand.
- Osher, L.J. and S.W. Buol. 1998. Relationship of soil properties to parent material and landscape position in eastern Madre de Dios, Peru. **Geoderma** 83: 143-166.
- Pal, D.K., S.S. Balpande and P. Srivastava. 2001. Polygenetic Vertisols of the Purna Valley of Central India. **Catena** 43: 231-249.
- Palumbo, B., A. Bellanca, R. Neri and M.J. Roe. 2001. Trace metal partitioning of Fe-Mn nodules from Sicilian soils, Italy. **Chemical Geology** 173: 257-269.
- Pimentel, N.L.V. 2002. Pedogenic and early diagenetic processes in Palaeogene alluvial fan and lacustrine deposits from the Sado basin (S. Portugal). **Sediment Geol.** 148: 123-138.
- Rabenhorst, M.C. and S. Parikh. 2000. Propensity of soils to develop redoximorphic color changes. **Soil Sci. Soc. Am. J.** 64: 1904-1910.

- Rayment, G.E. and F.R. Higginson. 1992. **Australian Laboratory Handbook of Soil and Water Chemical Methods**. Inkata Press, Australia.
- Reid, D.A., R.C. Graham, C. Amrhein and L.A. Douglas. 1996. Smectite mineralogy and charge characteristics along an arid geomorphic transect. **Soil Sci. Soc. Am. J.** 60: 1602-1611.
- Richardson, J.L. and F.D. Hole. 1979. Mottling and iron distribution in a Glossoboralf-Haplaquoll hydrosequence in a glacial moraine in northwestern Wisconsin. **Soil Sci. Soc. Am. J.** 43: 552-558.
- _____ and R.B. Daniels. 1993. Stratigraphic and hydraulic influences on soil color development, pp. 109-125. In J.M. Bigham and E.J. Ciolkosz, eds. **Soil Color**. Special Publication. No. 31. SSSA, Inc., Madison, WI.
- Rosen, M.R. and J.K. Warren. 1990. The origin and significance of groundwater seepage gypsum from Bristol Dry Lake California, USA. **Sedimentology** 37: 983-996.
- Ross, C.S. and S.B. Hendricks. 1945. Minerals of the montmorillonite group: Their origin and relation to soils and clays. **United States Geological Survey Professional Paper** 205: 23-79.
- Ruhe, R.V., R.C. Prill and F.F. Riecken. 1955. Profile characteristics of some loess-derived soils and soil aeration. **Soil Sci. Soc. Am. Proc.** 20: 345-347.
- Sah, R.N. and D.S. Mikkelsen. 1986. Transformation of inorganic phosphorus during the flooding and draining cycles of soil. **Soil Sci. Soc. Am. J.** 50: 62-67.
- Sanchez, P.A. 1976. **Properties and Management of Soils in the Tropic**. John Wiley and Sons, New York.

- Schafer, B.M. and G. Kirchhof. 2000. The soil and climate characterization of benchmark sites for lowland rice-based cropping systems research in the Philippines and Indonesia. **Soil Till. Res.** 56: 15-35.
- Schlesinger, W.H. 1991. **Biogeochemistry: An Analysis of Global Change.** Academic Press, Inc., New York.
- Schuppli, P.A., G.J. Ross and J.A. McKeague. 1983. The effective removal of suspended materials from pyrophosphate extracts of soils from tropical and temperate regions. **Soil Sci. Soc. Am. J.** 47: 1026-1032.
- Schwertmann, U. 1985. The effect of pedogenic environment on iron oxide minerals. **Adv. Soil Sci.** 1: 172-200.
- _____. 1993. Relations between iron oxides, pp. 51-69. In J.M. Bigham and E.J. Ciolkosz, eds. **Soil Colour.** SSSA Spec. Publ. ASA, CSSA and SSSA, Madison, WI.
- Shahandeh, H., L.R. Hossner and F.T. Turner. 2003. Phosphorus relationships to manganese and iron in rice soils. **Soil Sci.** 168: 489-500.
- Sharma, B.D., S.S. Mukhopadhyay and P.S. Sidhu. 1998. Microtopographic controls on soil formation in the Punjab region, India. **Geoderma** 81: 357-368.
- Sidhu, P.S. and R.J. Gilkes. 1977. Mineralogy of soils developed on alluvium in the Indo-Gangetic plain (India). **Soil Sci. Soc. Am. J.** 41: 1194-1201.
- Singh, B. 1991. **Mineralogical and Chemical Characteristics of Soils from South-Western Australia.** Ph.D. Thesis, The University of Western Australia.
- _____ and R.J. Gilkes. 1992. Properties of soil kaolins from south-western Australia. **J. Soil Sci.** 43: 645-667.

- Singh, B. and R.J. Gilkes. 1996. Nature and properties of iron glaeboles and mottles from some south-west Australian soils. **Geoderma** 71: 95-120.
- _____ and S. Heffernan. 2002. Layer charge characteristics of smectites from Vertosols (Vertisols) of New South Wales. **Aust. J. Soil Res.** 40: 1159-1170.
- Singleton, P.L. 1991. Water tables and soil colour as an indicator of saturation in some soils of the Waikato, New Zealand. **Aust. J. Soil Res.** 29: 467-481.
- Sinsakul, S. 2000. Later Quaternary geology of the Lower Central Plain, Thailand. **J. Asian Earth Sci.** 18: 415-426.
- Soil Survey Staff. 1999. **Soil Taxonomy: A Basic System of Soil Classification for Making and Interpreting Soil Survey.** USDA-NRCS. US Government Printing Office, Washington, D.C.
- StatSoft, Inc. 2003. **Statistica (Data Analysis Software System), Version 6.** StatSoft Pacific Pty Ltd, Melbourne, Australia.
- Sterckeman, T., F. Douay, D. Baize, H. Fourrier, N. Proix and C. Schwartz. 2006. Trace elements in soils developed in sedimentary materials from Northern France. **Geoderma** 136: 912-929.
- Stolt, M.H., C.M. Ogg and J.C. Baker. 1994. Strongly contrasting redoximorphic patterns in Virginia Valley and ridge Paleosols. **Soil Sci. Soc. Am. J.** 58: 477-484.
- Stoops, G. 1970. Scanning electron microscope applied to the micromorphological study of laterite. **Pedologie** 20: 268-280.

- Tardy, Y., G. Bocquier, H. Paquet and G. Millot. 1973. Formation of clay from granite and its distribution in relation to climate and topography. **Geoderma** 10: 271-284.
- _____, J. Duplay and B. Fritz. 1987. Stability fields of smectites and illites as a function of temperature and chemical composition, pp. 461-494. In R. Rodriguez-Clemente and Y. Tardy, eds. **Geochemistry and Mineral Formation in the Earth Surface**. Madrid.
- Tawornpruek, S., I. Kheoruenromne, A. Suddhiprakarn and R.J. Gilkes. 2006. Properties of red Oxisols on calcareous sedimentary rocks in Thailand. **Geoderma** 136: 477-493.
- Taylor, R.M. and U. Schwertmann. 1978. The influence of aluminum on iron oxides. Part I.: The influence of Al on Fe oxide formation from the Fe (II) system. **Clays Clay Miner.** 26: 373-383.
- Tessier, A. 1992. Sorption of trace elements on natural particles in oxic environments, pp. 425-453. In J. Buffle and H.P Van Leeuwen, eds. **Environmental Particles**. Lewis, Boca Raton.
- Thomas, G.W. 1987a. Exchangeable cations, pp. 159-161. In C.A. Black, ed. **Methods of Soil Analysis Part II. Chemical and Microbiological Methods Properties**. 2nd ed. Amer. Soc. Agron. Inc., Madison, Wisconsin, USA.
- Thomas, G.W. 1987b. Exchangeable acidity, pp. 161-163. In C.A. Black, ed. **Methods of Soil Analysis Part II. Chemical and Microbiological Methods Properties**. 2nd ed. Amer. Soc. Agron. Inc., Madison, Wisconsin, USA.
- Thompson, J.A. and J.C. Bell. 1996. Color index for identifying hydric condition for seasonally saturated Mollisols in Minnesota. **Soil Sci. Soc. Am. J.** 60: 1979-1988.

- Tiner, R.W. 1999. **Wetland Indicators a Guide to Wetland Identification, Delineation, Classification and Mapping**. Lewis Publishers, Washington, D.C.
- Trakoonyingcharoen, P., I. Kheoruenromne, A. Suddhiprakarn and R.J. Gilkes. 2006. Properties of kaolins in red Oxisols and red Ultisols in Thailand. **Appl. Clay Sci.** 32: 25-39.
- Tucker, R.J., L.R. Drees and L.P. Wilding. 1994. Signposts old and new: active and inactive redoximorphic feature; and seasonal wetness in two Alfisols of the gulf coast region of Texas, USA, pp. 149-159. In A.J. Ringrose-Voase and G.S. Humphreys, eds. **Soil Morphology: Studies in Management and Genesis**. Elsevier, Amsterdam.
- Velasco, F., A. Alvaro, S. Suarez, J.M. Herrero and I. Yusta. 2005. Mapping Fe-bearing hydrated sulphate minerals with short wave infrared (SWIR) spectral analysis at San Miguel mine environment, Iberian Pyrite Belt (SW Spain). **J. Geochem. Explor.** 87: 45-72.
- Veneman, P.L.M., M.J. Vapraskas and J. Bouma. 1976. The physical significance of soil mottling in Wisconsin toposequence. **Geoderma** 15: 108-118.
- Venugopal. K.R. 1998. Types of cutans in some ferruginous soils of Bangalore Plateau and their relation with soil development. **J. Indian Soc. Soil Sci.** 46: 641-646.
- Vepraskas, M.J. 1992. **Redoximorphic Features for Identifying Aquic Conditions**. North Carolina State University, Raleigh.
- _____. 1996. **Redoximorphic Features for Identifying Aquic Conditions. Technical Bulletin 301**. North Carolina Agricultural Research Service, North Carolina State University, Raleigh.

- Vepraskas, M.J. 2001. Morphological features of seasonally reduced soils, pp.163-182. In J.L. Richardson and M.J. Vepraskas, eds. **Wetland Soils: Genesis, Hydrology, Landscape and Classification**. Lewis Publishers, Boca Raton, FL.
- _____ and W.R. Guertal. 1992. Morphological indicators of soils wetness, pp. 307-312. In J.M. Kimble, ed. **Proc. Int. Soil Correlation Meet. 8th (VII ISCOM): Characterization, Classification and Utilization of Wet Soils, Louisiana and Texas**. Natl. Soil Surv. Center, Lincoln, NE.
- _____, L.P. Wilding and L.R. Drees. 1994. Aquic conditions for soil taxonomy: concepts, soil morphology and micromorphology, pp. 117-131. In A.J. Ringrose-Voase and G.S. Humphreys, eds. **Soil Micromorphology: Studies in Management and Genesis**. Developments in Soil Science 22. Elsevier, Amsterdam.
- Verapattananirund, P. 1986. **Upland Soils of Thailand, Their Characterization and Capability Evaluation**. Ph.D. Thesis, Kyoto University, Kyoto, Japan.
- Viani, B.E., A.S. Al-Mashhady and J.B. Dixon. 1983. Mineralogy of Saudi Arabian soils: central alluvial basins. **Soil Sci. Soc. Am. J.** 47: 149-157.
- Walker, P.H. and R.J. Coventry. 1976. Soil profile development in some alluvial deposits of Eastern New South Wales. **Aust. J. Soil Res.** 14: 305-317.
- Wang, H.D., G.N. White, F.T. Turner and J.B. Dixon. 1993. Ferrihydrite, lepidocrocite, and goethite in coating from east Texas vertic soils. **Soil Sci. Soc. Am. J.** 57: 1381-1386.
- Wang, X.C., W.D. Yan, Z. An, Q. Lu, W.M. Shi, Z.H. Cao and M.H. Wong. 2003. Status of trace elements in paddy soil and sediment in Taihu Lake region. **Chemosphere** 50: 707-710.

- Ward, D.E. and D. Bunnag. 1964. **Stratigraphy of the Mesozoic Khorat Group in Northeastern Thailand. Report of Investigation, Vol. 6.** Department of Mineral Resource, Thailand.
- White, L.D. and J.B. Dixon. 1995. Scanning electron microscopy of minerals in soils. **TSEMJ.** 26: 1.
- Whittig, L.D. and W.R. Allardice. 1986. X-ray diffraction technique, pp. 671–698. In A. Kulte, ed. **Methods of Soil Analysis, Part I. Physical and Mineralogical Methods.** 2nd Edition. Agronomy, No. 9. Amer. Soc. Agron. Inc., Madison, WI.
- Wong, S.C., X.D. Li, G. Zhang, S.H. Qi and Y.S. Min. 2002. Heavy metals in agricultural soils of the Pearl River Delta, South China. **Environ. Pollut.** 119: 33-44.
- Yang, S.Y., C.X. Li, H.S. Jung and H.J. Lee. 2002. Discrimination of geochemical compositions between the Changjiang and the Huanghe sediments and its application for the identification of sediment source in the Jiangsu coastal plain, China. **Mar. Geol.** 186: 229-241.
- Yoothong, K., L. Moncharoen, P. Vijarnsorn and H. Eswaran. 1997. Clay mineralogy of Thai soils. **Appl. Clay Sci.** 11: 357-371.
- Yu, T.R. 1985. **Physical Chemistry of Paddy Soils.** Science Press, Beijing and Springer-Verlag, Berlin.
- Zhang, G.L. and Z.T. Gong. 2003. Pedogenic evaluation of paddy soils in different soil landscapes. **Geoderma** 115: 15-29.