

References

- Acharyya, S.K. (2007) Collisional emplacement history of the Naga-Andaman ophiolites and the position of the eastern Indian suture. *Journal of Asian Earth Sciences*, **29**, 239–242.
- Acharyya, S. K., Ray K. K., Roy D. K. (1989) Tectono-stratigraphy and emplacement history of the ophiolite assemblage from the Naga Hills and Andaman island arc, India. *J. Geol. Soc. India*, **33**, 4-18.
- Acharyya S. K., Ray K. K., Sengupta S. (1990) Tectonics of the ophiolite belt from Naga Hills and Andaman Islands, India. *Proc. Indian Acad.Sci. (Earth Planet. Sci.)* **99**, 187-199.
- Achyuthan, H., Eastoe, C. (1999) Mineralogy and isotopic composition of pyrites-bearing ejecta from a mud volcano, Baratang, Andaman islands, *J. Geol. Soc. India*, **53**, 329–334.
- Alam M. A., Chandrasekharam D., Vaselli O., Capaccioni B., Manetti P., Santo P. B. (2004) Petrology of the prehistoric lavas and dyke of the Barren Island, Andaman Sea, Indian Ocean. In: Sheth HC, Pande K (eds) Magmatism in India through time. *Proc Ind Acad Sci (Earth Planet Sci)* **113**, 715–721.
- Allen S. R. (2005) Complex spatter- and pumice-rich deposits from an andesitic caldera-forming eruption: the Siwi pyroclastic sequence, Tanna, Vanuatu. *Bull volcanol* **67**, 27–41.
- Allen R., Carter A., Najman Y., Bandopadhyay P. C., Chapman H. J., Bickle M. J., Garzanti E., Vezzoli G., Andò, S., Foster G. L., Gerring C. (2007) New constraints on the sedimentation and uplift history of the Andaman-Nicobar accretionary prism, South Andaman Island. In: Draut A, Clift PD, Scholl DW (eds) Formation and applications of the sedimentary record in arc collision zones. *Geol Soc Am Spec Pap* **436**, 223–254A.
- Anderson S. W., Stofan E. R., Smrekar S. E., Guest J. E., Wood B. (1999) Pulsed inflation of pahoehoe lava flows: implications for flood basalt emplacement. *Earth Planet Sci Lett* **168**, 7–18.
- Awasthi N., Ray J. S., Laskar A. H. , Kumar A., Sudhakar M., Bhutani R. , Sheth H. C., Yadava M. G. (2010) Major ash eruptions of Barren Island volcano (Andaman Sea) during the past 72 kyr: clues from a sediment core record, *Bull Volcanol*, **72**: 1131-1136.

- Badve, R. M., M. A. Ghare, and C. Rajshekhar, (1984) On the age of the ejected material from the mud volcano of Baratang Island, Andaman, *Curr. Sci.*, **53**, 814–816.
- Ball, V. (1870) Notes on the geology of the vicinity of Port Blair, Andaman Islands. *Journal Asiatic Society of Bengal* **39**, 231–239.
- Ball V., (1888) The volcanoes of Barren and Narcondam Island in the Bay of Bengal. *Geol Mag* **404**.
- Ball, V. (1893) The volcanoes of Barren and Narcondam islands in the Bay of Bengal. *Geological Magazine*, **289**.
- Banerjee, B., Subba Rao. P. B. V., Gupta, G., Joseph, E. J. and Singh, B. P. (1998) Results from a magnetic survey and geomagnetic depth sounding in the post-eruption phase of the Barren Island volcano. *Earth Planets Space* **50**, 327-338.
- Banerjee, D. (2010) Thermoluminescence and optically stimulated luminescence signals from volcanic ash: History of volcanism in Barren Island, Andaman Sea, Quaternary Geochronology, **1-4** doi:10.1016/j.quageo.2009.01. 011.
- Bhattacharya, A., Reddy, C. S. S., Srivastav, S. K. (1993) Remote sensing for active volcano monitoring in Barren Island, India. *Photogrammetric Engineering and Remote Sensing* **59(8)**, 1293-1297.
- Bhoothalingam, S. (1972) Techno-economic survey of Andaman and Nicobar Islands National Council of Applied Economic Research New Delhi, 1-131.
- Bilham, R., Engdahl, R., Feldl, N. And Satyabala, S. P. (2005) Partial and Complete Rupture of the Indo-Andaman Plate Boundary 1847-2004. *Seismological Research Letters* **76(3)**, 299-311.
- Bischoff, J. L., Heath, G. R., Leinen, M., (1979) Geochemistry of deep-sea sediments from the Pacific Manganese Nodule Province. DOMES sites A, B and C. In: J.L. Bischoff and D.Z. Piper (Editors), *Marine Geology and Oceanography of the Pacific Manganese Nodule Province*, Plenum, New York, N.Y., 397-436.
- Bostrom, K., Kraemer, T. , Gartner, S., (1973) Province and accumulation rates of opaline silica, Al, Ti, Fe, Mn, Cu, Ni and Co in Pacific pelagic sediments. *Chem. Geol.*, **11**, 128-148.

- Brown, G., Brindley G. W. (1980) X-ray diffraction procedures for clay mineral identification. In G.W. Brindley and G. Brown (ed.) Crystal structures of clay minerals and their X-ray identification. Mineral. Soc. Monogr. 5. Mineralogical Society, London, 305–359.
- Brown K. M., Saler D. M., Bekins B. A., (2001) Smectite diagenesis, pore-water freshening, and fluid flow at the toe of the Nankai wedge, *Earth Planet. Sci. Lett.* **194**, 97-109.
- Cameron E. N. (1975) Postcumulus and subsolidus equilibration of chromite and coexisting silicates in the eastern Bushveld Complex. *Geochim Cosmochim Acta* **39**, 1021–1033
- Cawood, P. A., Kröner, A., Collins, W.J., Kusky, T.M., Mooney, W.D., and Windley, B.F., (2009) Accretionary orogens through Earth history in : Cawood, P.A. and Kröner, A. (Eds.), Earth Accretionary Systems in Space and Time, Geological Society of London Special Publication **318**, 1–36.
- Chakraborty, P. P., Pal, T. (2001) Anatomy of a fore-arc submarine fan: Upper Eocene–Oligocene Andaman Flysch Group, Andaman Islands, India. *Gondwana Research*, **4**, 477–486.
- Chandrasekharam, D., Santo, A. P., Cappaccioni, B., Vaselli, O., Alam, M. A., Manetti, P., Tassi, F., (2009) Volcanological and petrological evolution of Barren Island (Andaman Sea, Indian Ocean). *J. Asian Earth Sci.* **35**, 469–487.
- Chandrasekharam D., Vaselli O., Capaccioni B., Manetti P., Alam M. A. (2003) Cold springs of the Barren Island, Andaman Sea, Indian Ocean. *Current Science* **85**, 136–137.
- Chester, R. and Aston, S. R., (1976) The geochemistry of deep sea sediments. In: J.P. Riley and R. Chester (Editors), *Chemical Oceanography*, 6, Academic Press, New York, N.Y., 281-383.
- Chough S. K., Sohn Y. K. (1990) Depositional mechanics and sequences of base surges, Songaksan tuff ring, Cheju Island, Korea. *Sedimentology* **37**, 1115–1135.
- Cloos, M., (1993) Lithosphere buoyancy and collisional orogenesis: Subduction of oceanic plateaus, continental margins, island arcs, spreading ridges, and seamounts: *Geological Society of America Bulletin*, v. **105**, 715–737.

- Cochran, J. R. (2010) Morphology and tectonics of the Andaman Forearc, northeastern Indian Ocean, *Geophys. J. Int.* (2010) **182**, 631–651.
- Cole J. W., Milner D. M., Spinks K. D. (2005) Calderas and caldera structures: a review. *Earth-Sci Rev* **69**, 1–26.
- Coleman, R.G., (1977) Ophiolites: New York, Springer- Verlag , 220 p.
- Coleman, R. G. and Peterman, Z. E. (1975) Oceanic plagiogranites, *J. Geophys. Res.*, **80**, 1099–1108.
- Coish R. A., Church W. R. (1979) Igneous geochemistry of mafic rocks in the Betts Cove Ophiolite, Newfoundland, *Contrib Mineral Petrol* **70**, 29–39.
- Coish R. A., Gardner P. (2004) Suprasubduction-zone peridotite in the northern USA Appalachians: evidence from mineral composition *Mineral Mag* **68**, 699–708.
- Condie K. C., (1997) Plate tectonics and crustal evolution: Fourth edition, Butterworth-Heinemann, ISBN 0750633867, pp. 282
- Conrad C. P. , Bertelloni C. L. (2002) How Mantle Slabs Drive Plate Tectonics, *Science*, **298 (5591)**, 207-209.
- Cox, K. G., Bell, J. D., Pankhurst, R. J. (1979) The Interpretation of Igneous Rocks. London: Allan and Unwin 450 p.
- Curray, J. R., Moore, D.G., (1974) Sedimentary and tectonic processes in Bengal deep-sea fan and geosyncline. In: Burk, C.A., Drake, C.L. (Eds.), *The Geology of Continental Margins*. Springer, New York, 617–628.
- Curray, J. R. (2005) Tectonics and history of the Andaman Sea region. *J. Asian Earth Sci.* **25**, 187-232.
- Curray, J. R. , Emmel, F. J. , Moore, D. G., Raitt, R. W., (1982) Structure, tectonics and geological history of the northeastern Indian Ocean. In: Nairn, A.E.M., Stehli, F.G. (Eds.), *The Ocean Basins and Margins. The Indian Ocean*, **6**. Plenum Press, New York, 399–450.
- Curray, J. R., Moore, D. G., Lawver, L. A., Emmel, F. J., Raitt, R. W., Henry, M., Kieckhefer, R., (1979) Tectonics of the Andaman Sea and Burma, in *Geological and Geophysical Investigations of Continental*

Margins, eds Watkins, J.S., Montadert, L. & Dickerson, P.W., Amer. Assoc. Petrol. Geol. Memoir **29**, 189–198.

Dahlmann A., Lange G. J. de (2003) Fluid-sediment interactions at Eastern Mediterranean mud volcanoes: a stable isotope study from ODP Leg 160, *Earth and Planetary Science Letters* **212**, 377-391.

Dasgupta S., Mukhopadhyay M. (1993) Seismicity and plate deformation below the Andaman arc, northeastern Indian Ocean, *Tectonophysics* **225(4)**, 539-542.

Decker R. W., Christiansen R. L. (1984) Explosive eruption of Kilauea Volcano, Hawaii. In: National Research Council (ed) Explosive inception, evolution, and hazards (Studies in Geophysics). Nat Acad Press, Washington DC, 122–132.

DePaolo, D. J., Wasserburg, G. J. (1976) Nd isotopic variation and petrogenetic models, *Geophysical Resea. Lett.* **3**, 249-52.

Derry L. A., France-Lanord C. (1996) Neogene Himalayan weathering history and river $^{87}\text{Sr}/^{86}\text{Sr}$: Impact on the marine Sr record, *Earth Planet. Sci. Letts.*, **142**, 59-76.

Dewey, J. F., and Bird, J. M., (1971) The origin and emplacement of the ophiolite suite: Appalachian ophiolites in Newfoundland: *Journal of Geophysical Research*, **76**, 3179–3206, doi: 10.1029/JB076i014p03179.

Dick, H. J .B., Bullen, T. (1984) Chromium spinel as petrogenetic indicator in abyssal and alpine-type peridotites and spatially associated lavas. *Contributions to Mineralogy and Petrology*, **86**, 54–76.

Dick, H. J. B., Fisher, R. L. (1984) Mineralogical studies of the residues of mantle melting: abyssal and alpine-type peridotites. In: Kornprobst, J. (ed.) *Kimberlites II: the Mantle and Crust-Mantle Relationship*. Elsevier, Amsterdam, 295–303.

Dilek, Y., (2003) Ophiolite concept and its evolution, in Dilek, Y., and Newcomb, S., eds., *Ophiolite Concept and the Evolution of Geological Thought*: Geological Society of America Special Paper **373**, 1-16.

Dilek Y., Furnes H., (2011) Ophiolite genesis and global tectonics: Geochemical and tectonic fingerprinting of ancient oceanic lithosphere *GSA Bulletin* **123(3-4)**, 387–411.

- Dimitrov, L. I., (2002) Mud volcanoes—the most important pathway for degassing deeply buried sediments. *Earth Science Reviews* **59**, 49–76.
- Dixon, S., Rutherford, M. J., (1979) Plagiogranite as late-stage immiscible liquids in ophiolite and mid-ocean ridge suites; an experimental study, *Earth Planet. Sci. Lett.*, **45**, 45–60.
- Duncan A. M., Guest J. E. , Stofan E. R., Anderson S. W., Pinkerton H., Calvari S. (2004) Development of tumuli in the medial portion of the 1983 aa flow field, Mount Etna, Sicily. *J Volcanol Geotherm Res* **132**, 173–187.
- Ellam, R. M., Hawkesworth, C. J. (1988) Elemental and isotopic variations in subduction related basalts: evidence for a three component model. *Contributions to Mineralogy and Petrology* **98**, 72-80.
- ElWakeel, S. K. and Riley, I. P., (1961) Chemistry and mineralogical studies of deep sea sediments. *Geochim. Cosmochim. Acta*. **25**, 110–146.
- Flanagan F.J. (1976) Introduction to descriptions and analyses of eight new U.S.G.S. rock standards. U.S. Geological Survey Professional Paper **840**, 1-5.
- Gao S., Liu X. M., Yuan H. L., Hattendorf B., Gunther D., Chen L., Hu S. H. (2002) Determination of forty two major and trace elements in USGS and NIST SRM glasses by laser ablation-inductively coupled plasma-mass spectrometry, *Geostand. Newsl.* **26**, 181–196.
- Gass, I. G. (1990) Ophiolites and oceanic lithospheres. In: Malpas, J., Moores, E.M., Panayiotou, A. & Xenophontos, C. (eds) *Ophiolites: Oceanic Crustal Analogues*. Proceedings of the Symposium, 'Troodos 1987'. Geological Survey Department, Nicosia, 1–10.
- Gonfiantini, R., (1981) The d-notation and the mass-spectrometric measurement techniques, in *Stable Isotope Hydrology: Deuterium and Oxygen-18 in the Water Cycle*, edited by J. R. Gat and R. Gonfiantini, **35 – 84**, International Atomic Energy Agency, Vienna.
- Guest J. E., Stofan E. R. (2005) The significance of slab-crusted lava flows for understanding controls on flow emplacement at Mount Etna, Sicily. *J Volcanol Geotherm Res* **142**, 193–205.
- Hager B. H. (1984) Subducted Slabs and the Geoid: Constraints on Mantle Rheology and Flow *Jour. Of Geoph Rea.*, **89(B7)**, 6003-6015.

Haldar D. (1989) Petrology and chemistry of recent volcanics of Barren and Narcondam islands—the only two recent volcanoes in India. *Rec Geol Surv Ind* **122**(3), 48–49

Haldar, D. (1991) Petrochemical studies of Barren and Narcondam islands – the only two recent volcanoes in India. *Asiatic Society Journal*, September 1991, 1-2.

Haldar D., Chakraborty S. C., Sarkar N. K. (1994) The 1991 eruption of the Barren Island volcano in the Andaman Sea, India; an example of arc volcanism. *IAVCEI Gen Assembly*, Ankara Abstract

Haldar D, Chakraborty S. C., Chakraborty P. P. (1999) The 1994–1995 eruption of the Barren Island volcano in the Andaman Sea, India: a resurgent volcanism. *Gond Geol Mag Spl* **4**, 371–384.

Haldar D., Luhr J. F. (2003) The Barren Island volcanism during 1991 and 1994–95: eruptive style and lava petrology. *Geol Soc Ind Mem* **52**, 313–338.

Haldar D., Lasker T., Bandopadhyay P. C., Sarkar N. K. , Biswas J. K. (1992a) A short account of the on-going eruption of the Barren Island volcano. *Rec Geol Surv Ind* **125**(3) 87–96.

Haldar, D., Laskar, T., Bandyopadhyay, P.C., Sarkar, N. K. and Biswas, J. K. (1992b) A note on the recent eruption of the Barren Island volcano. *India Minerals* **46**, 77-88.

Haldar, D., Laskar, T., Bandyopadhyay, P. C., Sarkar, N. K. and Biswas, J. K. (1992c) A short account of the on-going eruption of the Barren Island Volcano. *Records of Geological Survey of India* **125**, 87-96.

Hamilton, W. (1979) Tectonics of the Indonesian Region. U. S. Geological Survey Professional Paper **1078**, 345 pp.

Hamilton, W.B. (1988) Plate tectonics and island arcs, *GSA Bulletin* **100** (10), 1503–1527.

Hamilton, W.B., (1998) Archean magmatism and deformation were not products of plate tectonics: *Precambrian Research*, **91**, 143–179.

Hamilton W. H., Myers W. B. (1963) Menan Buttes, cones of glassy basalt tuff in the Snake River Plain, Idaho. *Geological Survey research* 1962. *US Geol Surv Prof Pap* **450-E**, 114–118.

Hansen, V. L. (2007). "Subduction origin on early Earth: A hypothesis". *Geology* **35** (12), 1059-1062.

Helper (1840) Notice of the Mergui Archipelago along with the new coal-field of Tenasserim, Dr. Buist, Catalogue **165**, 638.

Herron M. M. (1988) geochemical classification of terrigenous sands and shales from core or log data, *Jour. of Sed. Pet.*, **30**, 841-883.

Hart, S. R., Erlank, A. J., Kable, E. J. D. (1974) Sea floor basalt alteration: some chemical and Sr isotopic effects. *Contributions to Mineralogy and Petrology* **44**, 219-230.

Hawkesworth, C. J., Gallagher K., Hergt J. M., McDermott, F., (1993) Mantle and slab contribution in arc magma *Ann. Rev. Earth Planet Sci.*, **21**, 175-204

Hobday J. R., Mallet F. R. (1885) The volcanoes of Barren and Narcondam Islands in the Bay of Bengal. *Mem Geol Surv Ind* **21**, 251-286.

Hochstetter, F. (1869) Geology and physical geography of Nicobar Islands. *Records Geological Survey of India* **2** (Pt 3).

Jafar S. A. (1985) Discovery of mixed coccoliths from Mud Volcanoes of Baratang Island, Andaman. *India. Curr. Sci.* **54** (4), 170-173.

Jafar, S. A., mainali, U. C., Singh, O. P. (1989a) Late Cretaceous Paleogene coccolith-cocktail exuded from the mud volcano of Baratang Island, Andaman and Nicobar Islands, India, *International Nanoplakton Association Newsletter*, **11(2)**, 66-68.

Jarrard, R. D. (2003) Subduction fluxes of water, carbon dioxide, chlorine, and potassium, *Geochem. Geophys. Geosyst.*, **4(5)**, 8905, doi: 10.1029/2002GC000392.

Johnson, M. C., J. A. T. Anderson, M. J. Rutherford, (1994) Pre-eruptive volatile contents of magmas, in *Volatiles in Magmas*, *Rev. Mineral.*, **30**, edited by M. R. Carroll and J. R. Holloway, 281-330.

Kamesh Raju K. A., Ramprasad T., Rao P. S., Rao B. R., Varghese J. (2004) New insights into the tectonic evolution of the Andaman Basin, northeast Indian Ocean. *Earth Planet Sci Lett*, **221**, 145-162.

Karig, D. E., Suparka, S., Moore, G. F., Hehanussa, P. E. (1979) Structure and Cenozoic evolution of the Sunda arc in the Central Sumatra Region. In *Geological and geophysical investigations of continental*

margins (eds J. S. Watkins, L. Montadert and P. W. Dickerson), **29** 223–237, American Association of Petroleum Geologists.

Karunakaran, C., Ray, K. K., Saha, S. S., (1968) Tertiary sedimentation in the Andaman- Nicobar geosyncline. *Jour Geo Soc India* **9**, 32–39.

Kessel, R., Schmidt, M. W., Ulmer, P., Pettke, T. (2005) Trace element signature of subduction-zone fluids, melts and supercritical liquids at 120-180 km depth. *Nature* **437**, 724-727.

Kastner M., Elderfield H., Martin J. B., (1991) Fluids in convergent margins: what do we know about their composition, origin, role in diagenesis and importance for oceanic chemical fluxes, *Philos. Trans. R. Soc. London A335* 243-259.

Kent A. J. R., Jacobsen B., Peate D. W., Waight T. E. and Baker J. A. (2004) isotope dilution MC-ICPMS-Ms Rare Earth Element analysis of Geochemical Reference Materials NIST SRM 610, NIST SRM 612,NIST SRM 614, BHVO-2G, BHVO-2, BCR-2G, JB-2, WS-E, W-2, AGV-1 and AGV-2, Geostand. *Geoanalyt. Res.* **28 (3)**, 417-429.

Khan P. K., Chakraborty P. P. (2005) Two-phase opening of the Andaman Sea: a new seismotectonic insight. *Earth Planet Sci Lett* **229**, 259–271.

Kimura, J. I., Kent A. J. R., Rowe M. C., Katakuse M., Nakano F., Hacker B. R., Keken P. E., Kawabata H., Stren R. J. (2010) Origin of cross- chin geochemical variation in quaternary lavas from the northen Izu arc: Using a quantitative mass approach to identify mantle sources and mantle wedge processes, *Geoche. Geophy. Geosys.* **11(10)**, 1-24.

Kopf, A. J. (2002) Significance of mud volcanism, *Rev. Geophys.*, **40**, B1-B49.

Kumar N. A., Ashalatha B., Sinha B., Thakur N. K. (2008) Estimates of geothermal gradients from bottom simulating reflectors, *Current Science*, **95 (10)**, 1463-67.

La Bas M. J., Le maitre R. W., Streckeisen A., Zanettin B. (1986) A chemical classification of volcanic rocks based on the total alkali silica diagram, *Journal of Petrology* **27**, 745-750.

Lagabrielle, Y., Guivel, C., Maury, R., Bourgois, J., Fourcade, S., Martin, H., (2000) Magmatic-tectonic effects of high thermal regime at the site of active ridge subduction: The Chile triple junction model: *Tectonophysics*, **326**, 255–268.

- Leys C. A. (1983) Volcanic and sedimentary processes during formation of the Sæfell tuff-ring, Iceland, *Trans Roy Soc Edinburgh: Earth Sci* **74**, 15–22.
- Ling, H. Y., V. Sharma, S. Singh, D. Mazumdar, and A. K. Mahapatra, (1995) Cretaceous and middle Eocene radiolaria from ejected sediments of mud volcanos of Baratang Island in Andaman Sea of the northeastern Indian Ocean, *J. Geol. Soc. India*, **45**, 463–469.
- Lodato L., Spampinato L., Harris A., Calvari S., Dehn J., Patrick M. (2007) The morphology and evolution of the Stromboli 2002– 2003 lava flow field: an example of a basaltic flow field emplaced on a steep slope. *Bull Volcanol* **69**, 671–679.
- Lowman, J. P. (2011) Mantle convection models featuring plate tectonic behavior: An overview of methods and progress. *Tectonophysics*, **510**, 1-16.
- Luhr J. F., Haldar D. (2006) Barren Island volcano (NE Indian Ocean): island-arc high-alumina basalts produced by troctolite contamination. *J. Volcanol Geotherm Res* **149** 177–212.
- Macdonald G. A., Abbott A. T., Peterson F. L. (1983) Volcanoes in the sea: The geology of Hawaii. Univ Hawaii Press, Honolulu, p 517
- Malik J. N., Murty C. V. R., EERI M., and Rai D. C., (2006) Landscape Changes in the Andaman and Nicobar Islands (India) after the December 2004 Great Sumatra Earthquake and Indian Ocean Tsunami Earthquake Spectra, **22(S3)**, S43–S66.
- Mallet, F. R. (1895) Some early allusion to the Barren Island: with a few remarks there on. *Records of Geological Survey of India* **28**, 22-34.
- Mattsson H., Höskuldsson A. (2005) Eruption reconstruction, development of flow-lobe tumuli and eruption duration in the 5900 BP Helgafell lava field (Heimaey), south Iceland. *J Volcanol Geotherm Res* **147**, 157–172.
- Maung, H., (1987) Transcurrent movements in the Burma–Andaman sea region, *Geology* **15**, 911–912.
- Mccourt, W. J., Crow, M. J., Cobbing, E. J. & Amin, T. C. (1996) Mesozoic and Cenozoic plutonic evolution of SE Asia: evidence from Sumatra,

- Indonesia. In Tectonic evolution of SE Asia (eds R. Hall and D. J. Blundell), Geol Soc of London, Spec. Pub. **106**, 321–335.
- McCulloch, M. T., Gamble, J. A. (1991) Geochemical and geodynamical constraints on subduction zone magmatism. Earth and Planetary Science Letters **102**, 358-374.
- McLennan, S. M., (1989) Rare earth elements in sedimentary rocks: Influence of provenance and sedimentary processes, In: B. R. Lipin and G. A. Mckay (Editors), Geochemistry and Mineralogy, **21**, 169-200.
- McLennan S. M., Nance W. B. and Taylor S. R. (1980) Rare earth element-thorium correlations in sedimentary rocks, and the composition of the continental crust, Geochim. Cosmochim. Acta, **44**, 1833-1839.
- McMurtry, G.M. and Yeh, H.W., (1981) Hydrothermal clay mineral formation of East Pacific Rise and Bauer Basin sediments. Chem. Geol., **32**, 189-205.
- Melcher, F., Grum, W., Simon, G., Thathammer, V. T., Stumpfl, E. F. (1997) Petrogenesis of the ophiolitic giant chromite deposits of Kempirsai, Kazakhstan – a case study of solid and fluid inclusion in chromites, Journal of Petrology, **38**, 1419–1458.
- Michael G., Hall C., Lavier L. (2004) Evolving force balance during incipient subduction. Geochemistry Geophysics Geosystems, **5(7)**, 1-31.
- Mohaney J. J., Natland, J. H., White, W. M., Poreda, R., Bloomer, S. H., Fisher, R. L., Baxter, A. N. (1989) Isotopic and geochemical provinces of the Indian ocean spreading centers. Jour. Of Geophy. Res. ,**94**, 4033-4053
- Moore, D. G., Curran, J. R., Emmel, F. J. (1982) Sedimentation in the Sunda Trench and forearc region, Geological Society, London, Special Publications **10**, 245-258.
- Moore J. C., Vrolijk P., (1992) Fluids in accretionary prisms, Rev. Geophys. **30** 113-135.
- Mullen, E. D., (1983) MnO/TiO₂/P₂O₅: a minor element discrimination for basaltic rocks of oceanic environments and its implication for petrogenesis. Earth and Planetary Science Letters, **62**, 53–62.

- Murray, R. W., Brink, M. R. B., Gerlach, D. C., Russ III, G. P. and Jones, D. L., (1991) Rare earth, major and trace elements in chert from the Franciscan Complex and Monterey Group, California: Assessing REE sources to fine grained marine sediments. *Geochim. Cosmochim. Acta*, **55**, 1875-1895.
- Murray, R. W., Brink, M. R. B., Gerlach, D. C., Russ III, G. P. and Jones, D. L., (1992) Interoceanic variation in the rare earth, major, and trace element deposition chemistry of chert: Perspectives gained from the DSDP and ODP record. *Geochim. Cosmochim. Acta*, **56**, 1892-1913.
- Murray, R. W., Leinen, M., (1993) Chemical transport to the sea floor of the equatorial Pacific Ocean across a latitude transect at 135 ° W: Tracing sedimentary major, trace, and rare earth element fluxes at the Equator and the Intertropical Convergence Zone. *Geochim. Cosmochim. Acta*, **57**, 4141-4163.
- Nakamura K. (1964) Volcano-stratigraphic study of Oshima Volcano, Izu. *Bull Earthquake Res Inst Univ Tokyo* **42**, 649-728.
- Nauret F., Abouchami W., Galer S., Hofmann A.W., Hemond C., Chauvel C., Dymant J., (2006) Correlated trace element Pb isotope enrichment in Indian MORB along 18-20° S, central Indian ridge, *Earth and Planetary Science Letters*, **245**, 137-152.
- Neuberg J. W. , Tuffen H., Collier L. , Green D. , Powell T. , Dingwell D., (2006). The trigger mechanism of low-frequency earthquakes on Montserrat. *Jour. of Volcano. and Geotherm. Res* **153(1-2)**, 37-50.
- Nicolas, A., (1989) Structure of Ophiolites and Dynamics of Oceanic Lithosphere: Dordrecht, the Netherlands, Kluwer Academic Publishers, 367 p.
- Niu, Y. (2004) Bulk major and trace element compositions of abyssal peridotites: implications for mantle melting, melt extraction and post-melting processes beneath mid-ocean ridges. *Journal of Petrology*, **45**, 2423-2458.
- Niu, Y., Hekinian, R. (1997) Basaltic liquids and harzburgitic residues in the Garrett Transform: a case study at fast spreading ridges. *Earth and Planetary Science Letters*, **146**, 243-258.
- Niu, Y., Michael J. O'Hara, Julian A. P. (2003) Initiation of Subduction Zones as a Consequence of Lateral Compositional Buoyancy

Contrast within the Lithosphere: a Petrological Perspective. *Journal of Petrology*, **44(5)**, 851-866.

Nohara, M. and Kato, K., (1985) Chemical compositions of pelagic deep-sea sediments its relation to the formation of authigenic mineral phase under the chemical control of sea water. In: N. Nasu et al. (Editors), *Formation of Active Ocean Ridges*. TTRRAPUB, Tokyo, 893-912.

Oldham, R. D. (1885). Notes on the geology of the Andaman island in the neighbourhood of Port Blair. *Rec. Geol. Surv. India*, **18(3)**, 133-145.

Orange, D. L., Geddes, D. S., Moore, J. C., (1993) Structural and fluid evolution of a young accretionary complex: The Hoh rock assemblage of the western Olympic Peninsula, Washington: Geological Society of America Bulletin, **105**, 1053-1075.

Orberger P., Lorand J. P., Girardeau J., Mercier J. C. C., Pitragool S. (1995) Petrogenesis of ultramafic rocks and associated chromitites in the Nan uttaradit ophiolite, northern Thailand. *Lithos* **35**, 153-182.

Pal, T. (2011) Petrology and geochemistry of the Andaman ophiolite: melt-rock interaction in a suprasubduction-zone setting. *Jour. of the Geol. Soc., London*, **168**, 1031-1045.

Pal T., Bandopadhyay P. C., Mitra S. K., Raghav S. (2007a) The 2005 eruption of Barren volcano: an explosive inner arc volcanism in Andaman Sea. *J Geol Soc Ind* **69**, 1195-1202.

Pal, T., Bhattacharya A., (2010) Greenschist-facies sub-ophiolitic metamorphic rocks of Andaman Islands, Burma-Java subduction complex. *Jour. Asi. Ear. Sci.* **39**, 804-814.

Pal, T., Chakraborty, P. P., Duttagupta, T. & Singh, C. D. (2003) Geodynamic evolution of an outer arc in convergent margin of active Burma-Java subduction complex, a document from Andaman islands, Bay of Bengal. *Geological Magazine*, **140**, 289-307.

Pal, T., Duttagupta, T., Chakraborty, P. P. & Dasgupta, S. C. (2005) Pyroclastic deposits of Mio-Pliocene age in the Arakan Yoma-Andaman- Java subduction complex, Andaman Islands, Bay of Bengal, India. *Geochemical Journal*, **39**, 69-82.

Pal T., Mitra S. K., Sengupta S., Katari A., Bandopadhyay P. C., Bhattacharya A. K. (2007b) Dacite-andesites of Narcondam volcano in the Andaman Sea—an imprint of magma mixing in the inner arc of the Andaman-Java subduction system. *J Volcanol Geotherm Res* **168**, 93–113.

Pal, T., Raghav, S. R., Bhattacharya A., Bondopadhyay, P.C., Mitra, S. K., Renjit, M. L., Sankar, M. S., Ghosh, B. (2010) The 2005–06 eruption of Barren Volcano, Andaman Sea: evolution of basaltic magmatism in island arc setting of Andaman–Java subduction complex. *Journal of Asian Earth Sciences*, **39**, 12–23.

Pattan, J. N., Rao Ch. M., Higgs N. C., Colley S., Parthiban, G. (1995) Distribution of major, trace and rare-earth elements in surface sediments of the Wharton Basin, Indian Ocean, *Chemical Geology* **121**, 201-215.

Paul D. Lowman Jr. (1997) Global Tectonic and volcanic activity of the last one million years NASA/Goddard Space Flight Center (**Code 921**) Greenbelt, Maryland 20771.

Peacock S. M. (1990) Fluids Processes in Subduction Zones, *Science*, **248**, 329-337.

Pearce, J. A., Barker, P. E., Edwards, S. J., Parkinson, I. J. & Leat, P. T. (2000) Geochemistry and tectonic significance from the South Sandwich arc-basin system, South Atlantic Contributions to Mineralogy and Petrology, **139**, 36– 53.

Pearce, J. A., Laan, S. R. V. D., Arculus, R. J., Murton, B. J., Ishii, T., Piaate, D. W., Parkinson, J. J. (1992) Boninite and hartzburgite from leg 125 (Bonin-Mariana forearc): A case study of magma genesis during the initial stages of subduction. *Proc. ODP Sci. Res.* **125**, 623–659.

Pearce J. A., Lippard S. J., Roberts S. (1984) Characteristics and tectonic significance of supra-subduction zone ophiolites, Geological Society, London, Special Publications, **16**, 77-94

Peacock S. M. (1990) Fluid processes in subduction zones, *Science* **248**, 329–37.

Pedersen R. B., Searle M. P., Carter A., Bandopadhyay P.C. (2010) U-Pb zircon age of the Andaman ophiolite: implications for the beginning of subduction beneath the Andaman-Sumatra arc *Jour. of the Geol Soc, London*, **167**, 1105–1112.

- Plank, T., Langmuir, C. H. (1998) The chemical composition of subducting sediments and its consequences for the crust and mantle, *Chemical Geology*, **145**, 325–394.
- Pluijm B. A. V., Marshak S. (2004) Earth Structure: An Introduction to Structural Geology and Tectonics, W. W. Norton and company pp.656, ISBN 0-393-92467-X
- Poddar, M. C., (1954) Mud volcanoes of south Baratang Island, Indian Miner., **8(4)**, 251–256.
- Prince R. C., Kennedy, A. K., Riggs-sneeringer, M., frey, F. A. (1986) Geochemistry of basalts from Indian ocean triple junction: implication for the generation & evolution of Indian ocean ridge basalts, *Earth and Planetary Science Letters*, **78**, 397-396.
- Raczeck I., Jochum K. P. and Hofmann A. W. (2003) Neodymium and Strontium Isotope Data for USGS Reference Materials BCR-1, BCR-2, BHVO-1, BHVO-2, AGV-1, AGV-2, GSP-1, GSP-2 and Eight MPI-DING Reference Glasses, *Geostand. Newslett.* **27(2)**, 173–179.
- Rajshekhar, C. (1985) Foraminifera from the ejected material of mud volcano, Baratang Island, Andaman, India, *Bull. Geol. Min. Met. Soc. India*, **52**, 147-158.
- Rajshekhar, C. (1989) Foraminiferal evidences for sediments of Santorian age occurring on Baratang Island, Andaman, India, *Journal of the Geological Society of India*, **33**, 19-31.
- Rajshekhar, C. (1992) The genus Hantkenina from Baratang island, Andaman, India, *Journal of the Geological Society of India*, **39(6)**, 495-501.
- Reddy, C. S. S., Bhattacharya, A. (1997) Post-Eruption monitoring of Barren Island volcano, Andaman Sea, Bay of Bengal, India, *Geocarto International*, **12:3**, 71-76.
- Raina V. K. (1987) A note on sulphur occurrence in the volcanoes of the Bay of Bengal. *Ind Mineral* **41**, 79–86.
- Rao D. R., Rai H., Kumar J. S. (2004) Origin of oceanic plagiogranite in the Nidar ophiolitic sequence of eastern Ladakh, India, *Current Science* **87(7)**, 999 – 1005.
- Ray, D., Rajan S., Ravindra R., Jana A. (2011) Microtextural and mineral chemical analyses of andesite-dacite from Barren and Narcondam

islands: Evidences for magma mixing and petrological implications, *J. Earth Syst. Sci.* 120(1), 145–155.

Ray, K. K. (1982) A review of the geology of Andaman-Nicobar islands. *Geol. Surv. India, Misc. Pub.*, **41(2)**, 110-125.

Ray, K. K., Sengupta, S., Van Den Hui, H. J. (1988) Chemical characteristics of volcanic rocks of Andaman Ophiolite, India. *Jour. of the Geol. Soc., London*, **145**, 393–400.

Ray, K. K., Sengupta, S., Van Den Hui, H. J. (1987). Unusual composition from the cumulate section of Andaman ophiolite. *J. Geol. Soc. India*, **30**, 249-254.

Ray R., Shukla A. D., Sheth H. C., Ray J. S., Duraiswami R. A., Vanderklusen L., Rautela C. S., Mallik J. (2008) Highly heterogeneous Precambrian basement under the central Deccan Traps, India: Direct evidence from xenoliths in dykes, *Gond. Res.* **13**, 375-385.

Ringwood, A. E. (1974) The petrological evolution of island arc systems *Journal of the Geological Society, London* **130**, 183-204.

Rink, P. H. (1847) Die Nikobar Inseln. Eine Geographische Skizze, mitspecieller Berücksichtigung der Geognosie, Kopenhagen. Translated Selections, Records Government India LXXVII, 540.

Robin C., Eissen J. P., Monzier M. (1993) Giant tuff cone and 12-km wide associated caldera at Ambrym volcano (Vanuatu, New Hebrides arc). *J Volcanol Geotherm Res* **55**, 225–238.

Roche O., Druitt T. H., Merle O. (2000) Experimental study of caldera formation. *J Geophys Res* **105B**, 395–416.

Rossi M. J., Gudmundsson A. (1996) The morphology and formation of flow-lobe tumuli on Icelandic shield volcanoes. *J Volcanol Geotherm Res* **72**, 291–308.

Rowland S. K., Walker G. P. L. (1987) Toothpaste lava: characteristics and origin of a lava structural type transitional between pahoehoe and aa. *Bull Volcanol* **49**, 631–641.

Rowland S. K., Walker G. P. L. (1990) Pahoehoe and aa in Hawaii: volumetric flow rate controls the lava structure. *Bull Volcanol* **52**, 615–628.

- Roy, D.K., Acharyya, S.K., Ray, K.K., Lahiri, T.C., Sen, M.K. (1988) Nature of occurrence and depositional environment of the oceanic pelagic sediments associated with the ophiolite assemblage, South Andaman Island. *Indian Minerals*, **42**, 31–56.
- Roy, T. K. (1983) Geology and hydrocarbon prospects of Andaman-Nicobar basin: In: *Petroliferous Basins of India*. Petroleum Asia Jour. KDM, IPE, ONGC, Dehra Dun, India, 37-50.
- Schieber (1992) A Combined petrological - geochemical provenance study of the Newland formation, Mid Proterozoic of Montana, *Geol. Mag.*, **129**, 223-237.
- Segerstrom K. (1950) Erosion studies at Paricutin volcano, State of Michoacan, Mexico. *US Geol Surv Bull* **956-A**, 1-164.
- Segerstrom K. (1966) Paricutin, 1965 – aftermath of eruption. *US Geol Surv Prof Pap* **550-C**, 93-101.
- Sengupta S., Ray K. K., Acharyya S. K., de Smeth J. B. (1990) Nature of ophiolite occurrences along the eastern margin of the Indian plate and their tectonic significance. *Geology*, **8(5)**, 439-442.
- Sewell R. B. S., (1925). A Study of the Nature of the Sea Bed and of the Deep-Sea Deposits of the Andaman Sea and Bay of Bengal ,["] *Memoirs Asiatic Soc. Bengal*, **9(2)**, 27-50.
- Shanker R., Haldar D., Absar A., Chakraborty S. C. (2001) Pictorial monograph of the Barren Island volcano: the lone active volcano in the Indian subcontinent. *Geol Surv Ind Spec Publ* **67**, 87.
- Shastry A., Srivastava R. K., Chandra R. and Jenner G. A. (2001) Fe-Ti enriched mafic rocks from south Andaman ophiolite suite: implication of late stage liquid immiscibility; *Curr. Sci.* **80** 453–454.
- Shaw, D.M., (1970) Trace element fractionation during anatexis. *Geochim. Cosmochim. Acta*, **34**, 237-243.
- Shaw, H. R., (1972) Viscosities of magmatic silicate liquids: an empirical method of prediction. *Am. J. Sci.* **272**, 870–893.
- Sheridan M. F., Wohletz K. H. (1983) Hydro volcanism: basic considerations and review. In: Sheridan MF, Barberi F (eds) *Explosive volcanism*. *J Volcanol Geotherm Res* **17**, 1–29.

- Shervais, J. W., Kimbrough D. L., Renne P., Hanan B., Murchey B., Snow C. A., Schuman M. M. Z., Beaman J. (2004) Multi-Stage Origin of the Coast Range Ophiolite, California: Implications for the Life Cycle of Supra-Subduction Zone Ophiolites, International Geology Review, **46**, 289–315.
- Sheth H. C. (2006) The emplacement of pahoehoe lavas on Kilauea and in the Deccan Traps. *J Earth Syst Sci* **115**, 615–629.
- Sheth H. C., Ray J. S., Bhutani R., Kumar A., Smitha R. S. (2009) Volcanology and eruptive history of the Barren Island volcano, Andaman Sea, *Bulletin of Volcanology* , **71**, 1021-1039.
- Sheth H. C., Ray J. S., Bhutani R., Kumar A., Awasthi N. (2010) The latest (2008-09) eruption of Barren Island volcano, and some thoughts on its hazards, logistics, and geotourism aspects, *Current Science*, **98(5)**, 620-626.
- Sheth H. C., Ray J. S., Kumar A., Bhutani R., Awasthi N. (2011) Toothpaste lava from Barren Island Volcano (Andaman Sea), *Journal of Volcanological and Geothermal Research*, **202**, 73-82.
- Siebert L., Simkin T. (2002) Volcanoes of the world: an illustrated catalogue of Holocene volcanoes and their eruptions, Smithsonian Institution, Global Volcanism Program Digit Information Series, GVP-3. <http://www.volcano.si.edu/gvp/world>.
- Silver, P. G., Behn M. D.(2008). Intermittent Plate Tectonics? *Science*, **319**, 85-88.
- Simkin T., Siebert L. (1994) Volcanoes of the world. Geosci, Tucson, p 249.
- Singh, O. P., Subramanya, S. M., Sharma, V., (2000) Early Neogene multiple microfossil biostratigraphy, John Lawrence Island: Andaman Sea: *Micropalaeontology*, **46**, 343–352.
- Spohn, T. and Schubert,G., (1982) Modes of Mantle Convection and the Removal of Heat From the Earth's Interior *J. Geophys. Res.*, **87**, 4682-4696.
- Srinivasa sarma D. Jafri S.H., Fletcher I.R., Mcnaughton N. J. (2010) Constraints on the Tectonic Setting of the Andaman Ophiolites, Bay of Bengal, India, from SHRIMP U-Pb Zircon Geochronology of Plagiogranite. *Jour of Geology*, **118(6)**, 691-697.

- Srivastava R. K., Chandra R., Shastry A. (2004) High-Ti type N-MORB parentage of basalts from the south Andaman ophiolite suite, India. *Jour. of Earth Sys. Sci.*, **113(4)**, 605-618.
- Stern, R. J., (2002) Subduction zones, *Rev. Geophys.*, **40(4)**, 1012, doi:10.1029/2001RG000108.
- Streck M.J., Ramos F., Haldar D., Duncan R.A., (2011) The Intra-oceanic Barren Island and Narcondam Arc volcanoes, Andaman Sea: Implications for subduction input and crustal overprint of a depleted mantle source, *Topics of igneous petrology* J.S. Ray et al. (edition) Springer, 258-273.
- Stumm W., Morgan J. J. (1981) *Aquatic Chemistry: An Prologue Emphasizing Chemical Equilibria in Natural Waters*. John Wiley & Sons, New York, 780 p.
- Subba Rao P. B. V. (2008) Regional conductance map of Andaman and Nicobar region. *Gondwana Res* **13**, 386-395
- Sun, S. S. and McDonough, W. F. (1989) Chemical and isotopic systematics of oceanic basalts: implication for mantle composition and processes. In: Saunders, A. D. and Norry, M. J. (eds) *Magmatism in the Ocean Basin*, Geological Society, London, Special Publication **42**, 313-345.
- Tamura, Y., (1994) Genesis of island arc magmas by mantle-derived bimodal magmatism: evidence from the Shirahama Group, Japan. *Journal of Petrology* **35**, 619-645.
- Tarbuck E.J., Lutgens F.J. (2006) *Earth Science*, eleventh edition, Pearson, Prentice hall Publications, pp 726
- Tatsumi, Y. (2005) The subduction factory: How it operates in the evolving Earth, *GSA Today*, **15(7)**, 4-10.
- Tatsumi, Y., Eggins, S., (1995) *Subduction zone magmatism*: Boston, Blackwell Science, 211 p.
- Tatsumi, Y., Hamilton, D. L. & Nesbitt, R. W. (1986) Chemical characteristics of fluid phase released from a subducted lithosphere and origin of arc magmas: evidence from high-pressure experiments and natural rocks. *Journal of Volcanology and Geothermal Research* **29**, 293-309.

Taylor S. R., McLennan S. M. (1985) The Continental Crust: its Composition and Evolution. Blackwell scientific publications, **312** pp.

Turner, S., Foden, J. (2001) U, Th and Ra disequilibria, Sr, Nd and Pb isotope and trace element variations in Sunda arc lavas: predominance of a subducted sediment component. Contributions to Mineralogy and Petrology **142**, 43-57.

Tyrrell G. W. (1926) Principles of Petrology, B. I. Publications Pvt. Ltd., pp 349.

Venkatrathnam, K., Biscaye, P. E., (1973) Clay mineralogy and sedimentation on the eastern Indian Ocean. Deep- Sea Res., **20**, 727-738.

Vohra, C.P., Halder, D. & Ghosh Roy, A.K. (1989) The Andaman-Nicobar ophiolite complex and associated mineral resources—current appraisal. In: Ghosh, N.C. (ed.) Phanerozoic Ophiolites of India. Sumna, Patna, 281–315.

Wakabayashi, J., Ghatak, A., and Basu, A.R., (2010) Tectonic setting of supra subduction zone ophiolite generation and subduction initiation as revealed through geochemistry and regional field relationships: Geological Society of America Bulletin, **122**, 1548-1568 doi: 10.1130/B30017.1.

Walker G. P. L. (1991) Structure, and origin by injection of lava under surface crust, of tumuli, “lava rises”, “lava-rise pits”, and “lavainflation clefts” in Hawaii. Bull Volcanol **53**, 546–558.

Washington H. S. (1924) The lavas of Barren and Narcondam Islands. Am J. Sci. **7(5)**, 22.

White J. D. L, Houghton B. (2000) Surtseyan and related phreatomagmatic eruptions. In: Sigurdsson H, Houghton BF, McNutt SR, Rymer H, Stix J (eds) Encyclopedia of volcanoes. Academic, New York, 495-511.

White J. D. L., Houghton B. F., Hodgson K. A., Wilson C. J. N. (1997) Delayed sedimentary response to the A.D. 1886 eruption of Tarawera, New Zealand. Geology **25**, 459–462.

White, W. M., Patchett, J. (1984) Hf-Nd-Sr isotopes and incompatible element abundances in island arcs: implications for magma origins

and crustal-mantle evolution. *Earth and Planetary Science Letters* **67**, 167-185.

Wilson, M., (1989), Igneous Petrogenesis: A Global Tectonic Approach, ISBN13:978-0-4125- 3310-5 pp. 466.

Wohletz K. H., Sheridan M. F. (1983) Hydrovolcanic explosions II. Evolution of basaltic tuff rings and tuff cones. *Am J Sci* **283**, 384-413.

Wronkiewicz D.J. and Condie K. C. (1987) Geochemistry of archean shales from the Witwatersrand supergroup, South Africa: source-area weathering and provenance, *Geochim. Cosmochim. Acta*, **51**, 2401-2416.

Zaw K., Acharyya S. K., Maung H. (1989) Comments and Reply on "Transcurrent movements in the Burma-Andaman Sea region" *Geology* **17**, 93-98.

Zimanowski B. (1998) Phreatomagmatic explosions. In: Freundt A, Rosi M (eds) From magma to tephra. Elsevier, Amsterdam, 25-53.