

CARBON AND OXYGEN ISOTOPIC COMPOSITIONS OF CARBONATE CONCRETIONS OF THE TALCHIR FORMATION AND THEIR PALAEO-ENVIRONMENTAL IMPLICATIONS by S.K. Bhattacharya, Prosenjit Ghosh and A. Chakrabarti. Jour. Geol. Soc. India, v.60, 2002, pp.677-686.

K.S. Subramanian, Plot 283, 17th East Street, Kamraj Nagar, Tiruvenmiyur, Chennai - 600 041, comments:

At the end of the above paper, the authors conclude that their isotopic studies suggest a non-marine environment for the deposition of Talchir sediments. The conclusion is in agreement with the traditional view that Talchir sediments of glacial and glaciofluvial origin were laid down when the identities of the continents of the southern hemisphere were merged in the supercontinent, Gondwanaland.

It is generally recognized that there were passing phases of marine incursion in the glacial and glaciofluvial environment, as evidenced by the Umaria marine bed, near Mahendragarh in the Hasdo Valley (Krishnan, 1982) and in the Palar basin (Murthy, N.G.K. and Ahmad Mohammad, 1977). Perhaps arms of the sea surrounding the Gondwanaland extended into the supercontinent and exerted their influence on the frigid environment. Against this generally accepted background on the environment of deposition of Talchir sediments, the authors statement that their suggestion of a non-marine origin is "in contrast to the proposition of a marine regime inferred from sedimentological and palaeontological studies" (p.685), is intriguing. If the reference on a dominant marine origin, based on sedimentological and palaeontological studies, are given by the authors, it will be of interest to readers.

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reply:

We thank Dr. K.S. Subramanian for his interest in our paper. Presence of marine fossils in Mahendragarh, Umaria and Daltonganj in sediments overlying the Talchir boulder beds has been an intriguing feature in an otherwise clear case of glaciofluvial deposit. This probably represents a solitary incursion of the sea from the northern direction as noted by Dr. Subramanian. However, there are some recent researches which left open the question of marine origin for the Talchir sediments. The references are given in the Introduction of paper. We do not say that these workers claimed a "dominant marine origin" for the Talchir beds but their studies do raise doubt about the freshwater origin, at least in certain sectors. Our work was motivated by the desire to understand the origin of the Talchir beds using quantitative isotope geochemistry.

References

- KRISHNAN, M.S. (1982) Geology of India and Burma, CBS publishers and Distributors.
MURTHY, N.G.K. and AHMAD MOHAMMAD (1977) Palaeogeographic significance of the Talchir in the Palar basin near Madras (India). IV International Gondwana Symposium, Hindustan Publishing Corporation, Delhi.

(Comment received on 9 January 2003 and the reply on 24 February 2003)

ADDENDUM

In the note on the 'Short Term Course on 'Fluid Inclusions in Minerals' that appeared in the Journal (JGSI, v.61, no.3, p.363), following may be added:

The course was sponsored by the Department of Science and Technology (DST) and took place during 28 October to 2 November, 2002 in the Department of Geology and Geophysics, Indian Institute of Technology, Kharagpur.