

Researches
in
PHYSICAL SPELEOLOGY
NATURAL CAVES OF CHHATTISGARH
RPS SERIES

VOL - I
A Peer Reviewed Volume
(Occurrence, Evolution and Morphology)



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**Dedicated
To
SIYADEVI TIRTHA
&
TURTURIYA DHAM**

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IN
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NATURAL CAVES OF CHHATTISGARH
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Vol. I

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PREFACE

In the series of physical speleology, the present volume I, Researches in Natural Caves of Chhattisgarh includes occurrences, distribution, evolution and physical morphology of some selected, hundred and famous caves of Chhattisgarh State in a view to present one of the most attractive and less known subject matter now make available in form of scientific literature. perhaps due to mysterious and tedious. Labourious paining. rough to tough searching for cave studies became more patienceful work than other field programmes of Hilly rocky terrains, Forests, River valleys. Water falls & Cavernous zones (U.G.). It requires about a decade of time span to compile the work. In past, the caves have been utilized by settlers, hunterers. as rest rooms in many parts of India also it had been selected as spots of strategic importance by rulers during wars and safe guarding the peoples from the enemy attackers. The Indian cultural and aesthetic values lies in the remote & peaceful locations in different regions of India. The geographical distribution and general features of caves have been illustrated in systematic manner. In Chhattisgarh region the spatial distribution of caves are mostly controlled by lithologic variations of Chhattisgarh Super Group of rocks. Also the detection of new caves requires sound knowledge of terrain condition and clues regarding tectonic features of the region. some determinative guide lines have been mentioned for searching of new cave / rocks shelters. Remote sensing techniques ground Geophysical surveys / Gemorphic parameters can be utilized under scientific and instrumental procedures for detection of caves.

In Chhattisgarh region the caves can be classified, Geologically, as Karstic and non Karstic depending upon their host rock lithology and mode of origin. The Geomorphic conditions and landscape of cave environment analysis contributes towards accessibility to the cave site and survival of caves with time span protection and safety from natural weathering / erosional activity processes. The Evolution of the caves, main causes and effects / changes from primary stage of primordial configurations with later stages of caving processes. Various factors responsible for origin of caves have been elaborated with literature review and examples. The shape, size, dimensions of caves space for ventilation, pillars-stands, entrance and accessibility for Sun light rays, rock strength, durability, physical characteristics etc. have been described in detail for selected caves of each class separately. The Historical importance, Archaeological aspects of caves and rock inscriptions found inside of caves have been interpreted in Chronological order of Ancient Indian History time span & state of Maurya's, Gupta's and Medieval periods with literature citations and new findings. I hope that the volume enrich works in the field of physical speleology and create / new dimensions about Caves of Chhattisgarh.

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CHIEF EDITOR
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About Speleology - The Science of Caves

The term Speleology is applied for the study of caves. It is closely related with Geology, Geomorphology, Archaeology, Survey, Biology, Sociology & Culture etc. The Scientific exploration of caves and genesis of caves is called speleogenesis. Earlier, the scientific value of caves had been considered in its contribution to established larger disciplines of Geology, Geography, Archaeology, Social Architecture etc. The concept of speleology as a distinct subject study discipline was founded by Edward Alfred Martel in France during (1859-1938 AD). He built the first institution of cave science in the world, named “Societie de Speleologic”. Afterwards the speleology is recognized as the discipline in the scientific study of caves. It includes the physical speleology i.e. Form, configuration, structures, physical characteristics, mode of occurrences, spatial distribution etc. and speleogenesis i.e. the evolution, history, origin, process of formation etc. of all kinds of caves, Karstic and Non-Karstic both. Fundamentally, the speleology is a multidisciplinary in nature due to consideration and scope of its vast areas of interconnecting fields. Geologically, on the basis of Lithologic Characteristics the caves have been broadly categorized in to Karst Caves-developed in Karstic Limestone terrain and Non Karst caves i.e. the caves formed by Tectonic movements and structural features folds, faults & lineaments. The erosional caves are developed by erosional agents and natural weathering processes in any kind of rocks.

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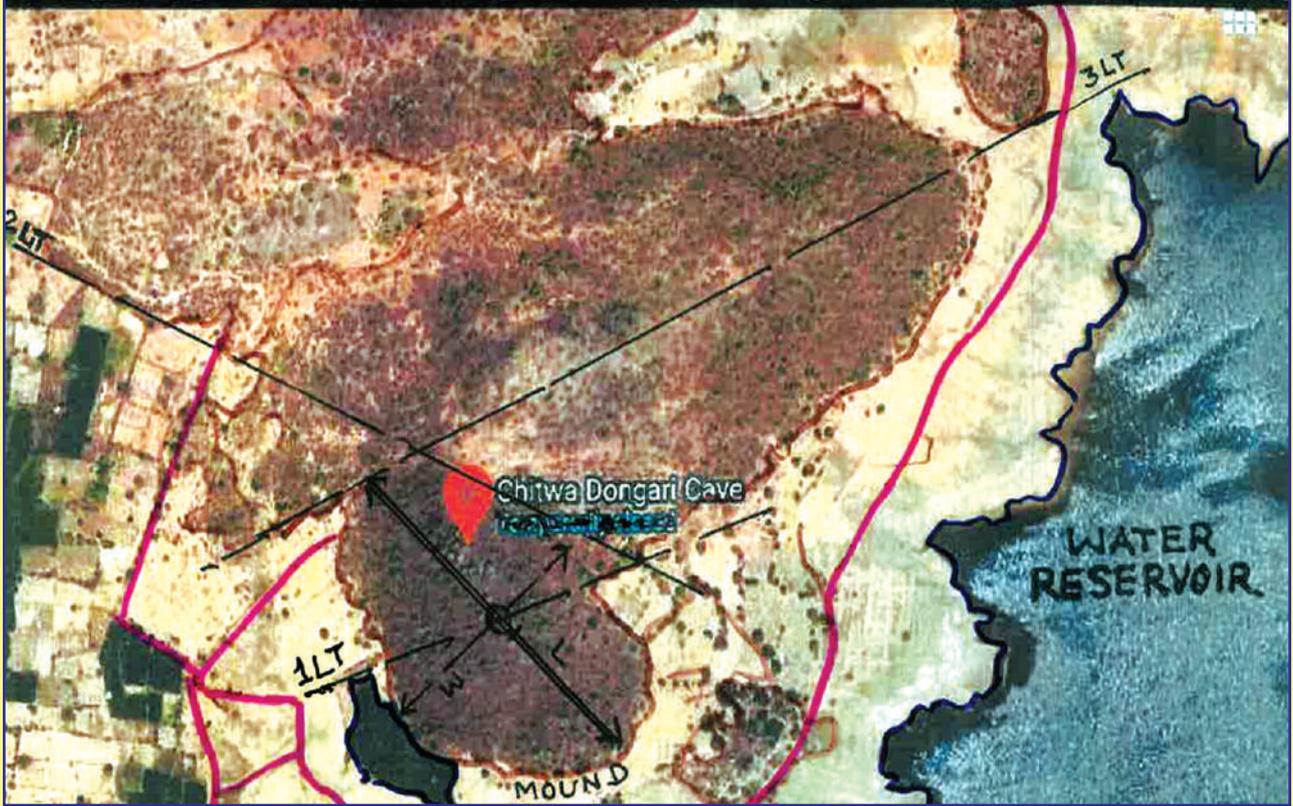
Prof. Kuity was born on 15th March 1950 in West Bengal. The academic profile begins in the Banaras Hindu University (M.Sc. & Ph.D.), Varanasi, UP. and becoming lecturer in the Dept. of Geol. BHU then Joined Pt. R. S. University, Raipur C.G. Prof. Kuity spent a long span of time about 45 years in the research, teaching and popularization of science articles. He carried out many research projects UGC, CSIR, MAP, COST, CGCOST, IN GRANITES, tin MINERALIZATION, WATER, RESOURCES GEOCHEMISTRY etc. Fields, successfully, and got SRF, PDF, CSIR, UGC, INSA, DST, SERC Fellowships & Lord Ganpati award IIOH, Kolkata published about 65 Research Papers and articles and still actively participating in academic activities.

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Architect (Dr.) Debashis Sanyal, M.Arch., PhD. has more than 38 years research and teaching experience in Architecture discipline in National Institute of Technology Raipur. He is individual Member of International Council for Research and Innovation in Building and Construction (CIB), Netherlands and Council on Tall Buildings and Urban Habitat, USA. His active research areas of interest are Historical forts, Conservation and preservation of Ancient Indian monuments, Self Efficient Housing, Eco-cities, Super tall Intelligent buildings, industrialized mass housing, Indoor Air quality. He was awarded justice Mahapatra Award for research by Rotary Club of Raipur Central in 1995, A3F best teacher award from A3foundation Chandigarh and award for valuable contribution in Engg. & Technology by The Institution of Engineers (India) Chhattisgarh state center in 2019. Till date he has published 36 research papers in international journals and presented 66 research papers in National/international conferences by visiting 35 countries.



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