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EDITORIAL

The New Gondwana Newsletter

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SPECIAL CORRESPONDENCE

Gondwana Lithostratigraphy of Peninsular India

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(Manuscript received August 26, 2001; accepted November 19, 2001)

Abstract

The controversy regarding the stratigraphic interpretation of the Indian Gondwana succession in the Peninsular Basins has continued for more than a century, with the exception of the Damodar and Satpura Basins. While the stratigraphic reconstruction in Damodar and Satpura was based on the order of superposition of strata, elsewhere the relative ages were based on paleontological evidence that disregarded various physical criteria including the order of superposition.

Overlying the Precambrian crystalline basement, the Gondwana succession of late Permian to early Jurassic age can be classified into four sedimentary facies; a glaciogenic facies (Facies A), a coal-bearing facies (Facies B), a red shale-sandstone facies (Facies C) and a hill-forming coarse sandstone-conglomeratic facies (Facies D). The stratigraphic order of these four facies in ascending order from Facies A at the bottom to Facies D at the top is well established in the Damodar and Satpura regions. In both areas, Facies D overlies the underlying older sediments as well as the crystalline basement with a pronounced unconformity. However, in the Pranhita-Godavari and Son Basins (and elsewhere) the stratigraphic relations between Facies B, Facies C and Facies D are controversial. One such enigma is where the sequence of Facies C and Facies D are repeated several times in the geological column. This interpretation contrasts with the supposed genesis of climatically controlled lithic fill in Gondwana Basins.

Overturning the standard stratigraphic relation between Facies C and Facies D was based on fragmentary fossil evidence where the Lower Gondwana flora seems to be present in Upper Gondwana rocks. Turning the stratigraphy upside down was done without establishing the order of superposition between strata. Throughout the 20th century, most stratigraphers working in the Pranhita-Godavari and Son Basins worked within a fossil-based stratigraphic paradigm. This resulted in still more confusion, the magnitude of which can be appreciated as one browses through various interpretations presented in innumerable publications.

In this paper, we attempt to offer a lithostratigraphic interpretation of the Peninsular Gondwana Basins based only on physical criteria such as lithological association, their petrographical characteristics and the most fundamental tool of stratigraphy, 'the order of superposition'.

Key words: Gondwana, lithostratigraphy, Pranhita-Godavari, stratigraphy, Peninsular India.

CORRESPONDENCE

Carbon Isotope Composition of Raialo Carbonates and Its Equivalents, Mesoproterozoic Delhi Supergroup, India: Implications for Stratigraphic Correlation

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(Manuscript received August 8, 2001; accepted October 19, 2001)

CORRESPONDENCE

Evaluation of Natural Defects in Commercial Decorative Rock Deposits in Karnataka, India

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Abstract

Karnataka state is a pioneer in the exploitation of commercial decorative rock resources and in establishing a firm base for the stone industry. The commercial stone industry in the state has grown in status contributing about 40% of the decorative/dimensional stones of both polished and rough blocks exported from the country. Karnataka state forms a part of the Indian Peninsular Shield and extends over an area of 1,91,792 km². Peninsular gneisses, Closepet granite and Younger dykes such as dolerite, felsite and pyroxenite of different ages are the main sources of commercial rock deposits. The state also produces premium varieties like ruby red and black (dolerite) granite and other popular varieties. The demand for the premium varieties is generally steady in international market. World famous commercial ornamental stone varieties are being exploited from Kanakapura, Bangalore, Malaikaval, Hassan, Sira, Tumkur and Illkal in Bijapur districts of Karnataka. Important commercial stones in the Karnataka stone industry are marketed with commercial names such as Imperial red, Himalayan blue, Ocean white, Sabal black, Ruby red, Hassan green, Sawan rose, Sira grey, English teak, Tiger's skin, Pink panther, Salt and pepper, Cat's eye, and Chilly red.

The success of the commercial stone industry solely depends upon the availability of large reserves of defect free rock deposits. Detection of defects in commercial rock deposits plays an important role in quality assessment. Macro defects can be detected by visual examination of commercial rock deposits. Micro discontinuities such as altered or twisted minerals can be detected by systematic micropetrographic analysis of the rock specimens. In Karnataka, too many organizations, entrepreneurs and individuals are investing huge amounts without evaluating the quality of the deposit. This results in poor quality stone and subsequent quarry abandonment. Quarry owners and stone exporters should be quality conscious about export-oriented natural stones in order to remain in the business and maintain the reputation of the Karnataka stone industry.

Key words: Karnataka, commercial stone industry, premium varieties, natural defects, trade name.

CONFERENCE REPORT

International Symposium on the Assembly and Break-up of Rodinia and Gondwana, and Growth of Asia

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FIELD EXCURSION

Field Workshop in Middle Honshu, Japan (IGCP 411)

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BOOK REVIEW

Mahanadi Delta: Geology, Resources and Biodiversity

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BOOK REVIEW

Tectonomagmatism, Geochemistry and Metamorphism of Precambrian Terrains

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BOOK REVIEW

Cretaceous Stratigraphy-An Update

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BOOK REVIEW

Geology of Assam

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Forthcoming Events

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(GR thanks all its referees, many of whom are not included in the following list as per their desire to remain anonymous)
