

ON THE OCCURRENCE OF *PLICATINA ANTIQUA* RAABEN, 1980 FROM KUMAON HIMALAYA, U. P.

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Plicatina antiqua, a new stromatolite form is recorded for the first time in India from Gangolihat dolomite, Almora district, U. P. The occurrence is about 1 km from Kathpuria Chhina on Kathpuria Chhina-Raikholi forest road. *Plicatina antiqua* is a dome shaped stromatolite. Wavy laminations with acute fold like protuberances and pseudo columns is characteristic of this form.

Plicatina is a Lower Riphean stromatolite form which is only known from Precambrian II² of Morocco and Uchur series of Eastern Siberia (Raaben 1980).

STROMATOLITES IN THE GANGOLIHAT DOLOMITE

The Gangolihat dolomite attains a vast thickness in Almora-Pithoragarh districts and belongs to youngest formation of calc. zone of Pithoragarh. The main lithounits are dolomitic limestone, stromatolitic dolomite, dolomite, intraformational conglomerate, slates, lenses of magnesite and phyllites.

The Gangolihat dolomite shows good development of columnar, branching and stratified stromatolites (Misra and Valdiya, 1961; Valdiya, 1969; Kumar and Tewari, 1978a,b). Kumar and Tewari (1978a) suggested a Lower to Middle Riphean age to Gangolihat dolomite on the basis of *Conophyton garganicus*, *Colonnella columnaris-Baicalia* assemblage. *Plicatina antiqua* is found associated with *Stratifera undata* and *Gongylina differentiata*. The lithostratigraphic succession in the area is as follows:

Berinag Quartzite: Orthoquartzites and amphibolites.

Gangolihat Dolomite: Lower member comprises massive dolomites and dolomitic limestone showing development of both columnar and stratified stromatolites (*Conophyton garganicus-Baicalia-Colonnella* assemblage). It includes lentiform deposits of magnesite. The upper member consist of tuffaceous purple phyllites and light coloured dolomites.

Sor Slates: Olive green, brown grey slates with orthoquartzites and sub-ordinate argillaceous dolomitic limestone.

—————North Almora Thrust—————
Crystalline Zone of Almora: Schists and gneises

SYSTEMATIC DESCRIPTION

Plicatina Raaben, 1980

Plicatina antiqua Rabben, 1980.

Plate 1, Figs. 1, 2, 3.

TYPE SPECIMEN: 250 a,b,c,d, and 251.

DESCRIPTION: Stromatolitic structures, are dome shaped and convex: Transverse section is elongated to irregular. The height varies from 15-20 cms, diameter varies from few cms to a meter. Lamination pattern is wavy and intensively folded with fold like protuberances and pseudocolumns are 2-4 cms wide and several cms high. The laminae are distinct and several zones of folds may be present. The axes gently inclined to horizontal. The

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laminae are made up of carbonates and show recrystallization. The macrolaminae is 5 to 10 mm wide and microlaminae varies from 0.08 mm to 3 mm.

REMARKS :

Plicatina antiqua has been described from the carbonate member of Precambrian II² (Early Riphean), Tarhdoute, Morocco by Raaban (1980). *Plicatina* resembles *Coleniella* Koroljuk from Lower Riphean of Eastern Siberia but can be distinguished by intensively folded pattern of laminae with acute fold like protuberances and pseudocolumns. The structure show some similarity with *Nucleella* when a nucleus is present.

The lower part of Gangolihat dolomite is of lower Riphean age. *Plicatina antiqua* also suggests an Early (Lower) Riphean age to lower part of Gangolihat dolomite. The

discovery of *Plicatina antiqua* from the Gangolihat dolomite is very significant for correlation. The other Moroccan stromatolite genera recorded from carbonate members of Pem II³ are *Conophyton*, *Jacutophyton*, and *Baicalia* which are characteristic of Middle Riphean age (Reaben, 1980). The stromatolitic assemblage of Gangolihat dolomite shows much similarity with Pem II² and Pem II³ of Morocco.

ACKNOWLEDGEMENTS

The author is thankful to Dr. (Mrs.) M. E. Raaben, Geological Institute Moscow for discussions in the field and laboratory and to Dr. S. C. D. Sah, Director, W.I.H.G., Dehra Dun for field and laboratory facilities.

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Manuscript received : 20-5-1982.

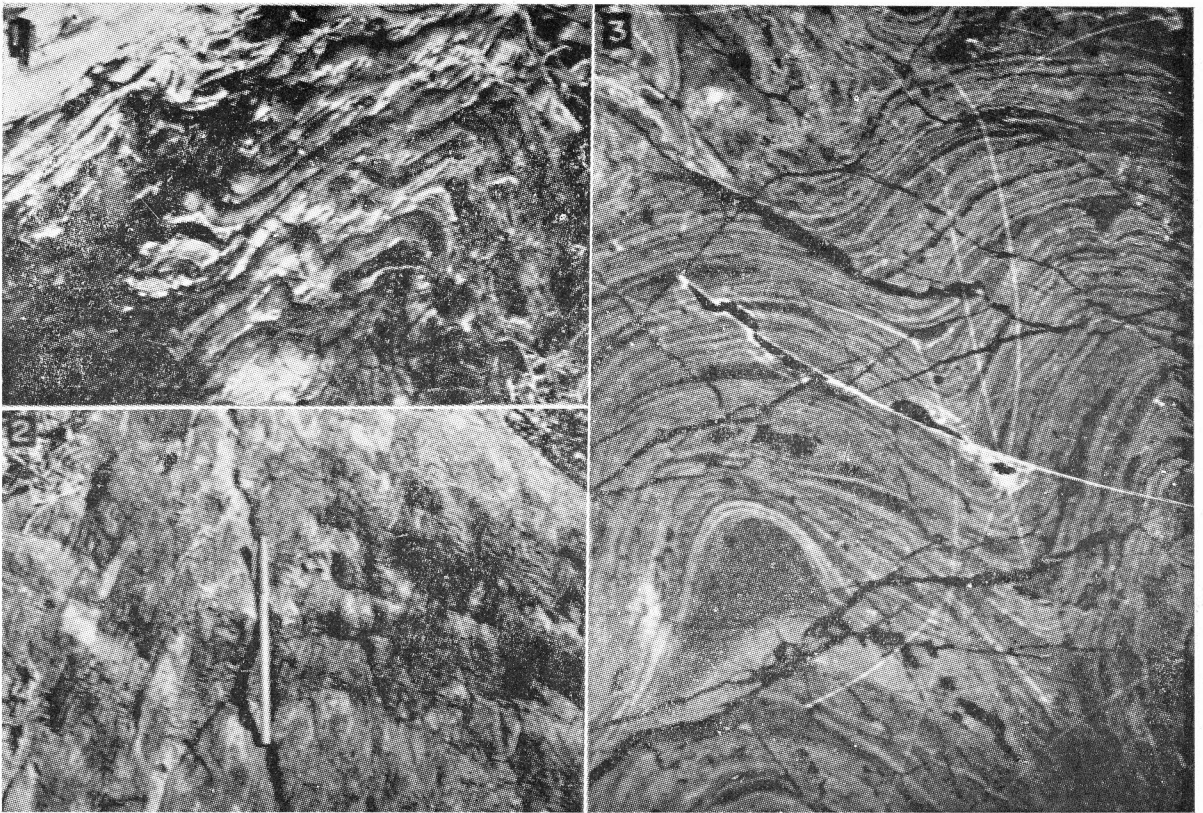


Fig. 1. Field photograph of *Plicatina antiqua*. Fig. 2. *Plicatina antiqua* f. n. Lamination pattern in vertical section.
 Fig. 3. Microlamination pattern of *Plicatina antiqua*.