Thallium gave a dirty white precipitate. The reaction mixtures were digested on a water bath and kept overnight. The precipitates were filtered, washed with water and dried in oven at 100° C for two hours. The dried mercurates were analysed for mercury and the sulphur contents. The experimental values of sulphur and mercury corresponded well with the theoretical values.

The mercurates were characterised on the basis of their Nujol mull infrared spectra, recorded in 4600–700 cm^{-1} region on a Specord-71, Spectrophotometer. Bands corresponding to —SH frequencies, observed in the case of thiosalicylic acid, disappear completely in the spectra of the mercurates. But the bands corresponding to C = O stretching vibrations shift to lower frequency and are observed to split. C — S stretching vibrational bands also shift to a lower frequency. The disappearance of —SH frequency band and the lowering of C — S stretching frequency indicate the coordination through sulphur atom. The coordination through carboxyl oxygen and carboxylic group is indicated by lowering of C = O stretching frequencies. The splitting of the bands may be due to coupling of some vibrations.

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NOTE ON THE DISCOVERY OF *CONOPHYTON* AND THE RECORD OF ONCOLITES FROM THE KUMAON HIMALAYA

THE present note records the discovery of the stromatolite *Conophyton* from the Kumaon Himalaya as a whole, and oncolites from the Calc Zone of Tejam. The typical cone-in-cone type of algal structure (Plate Figs. 1 to 4), as recorded here, belongs to the form *Conophyton cylindricus* Maslov, so typical of the Lower Riphean. Oncolites have so far been mainly reported from Siberia and Japan only. Report of oncolites from the Precambrian terrains of India is very scarce to almost lacking.

The above-mentioned forms have been recorded from the thick calc-argillaceous Kapkot formation (Misra and Bhattacharya, 1972) of the Calc Zone of Tejam, around Kapkot village (29° 56′ 19″ : 79° 54′ 9″) in the northern Almora District. The host rocks in which the forms occurs, are grey dolomitic limestones.

Conophyton cylindricus occurs as conical to sub-cylindrical forms, disposed vertically. They taper towards the top and are typically constricted near the base (Plate Figs 1, 3). The transverse section is circular to elliptical and the cross-section shows dark and light coloured laminae arranged in nested cones (Plate Figs. 2, 4). They contain a prominent central or axial cone surrounded by concentric, but thinner, conical laminae. Two varieties have been distinguished.

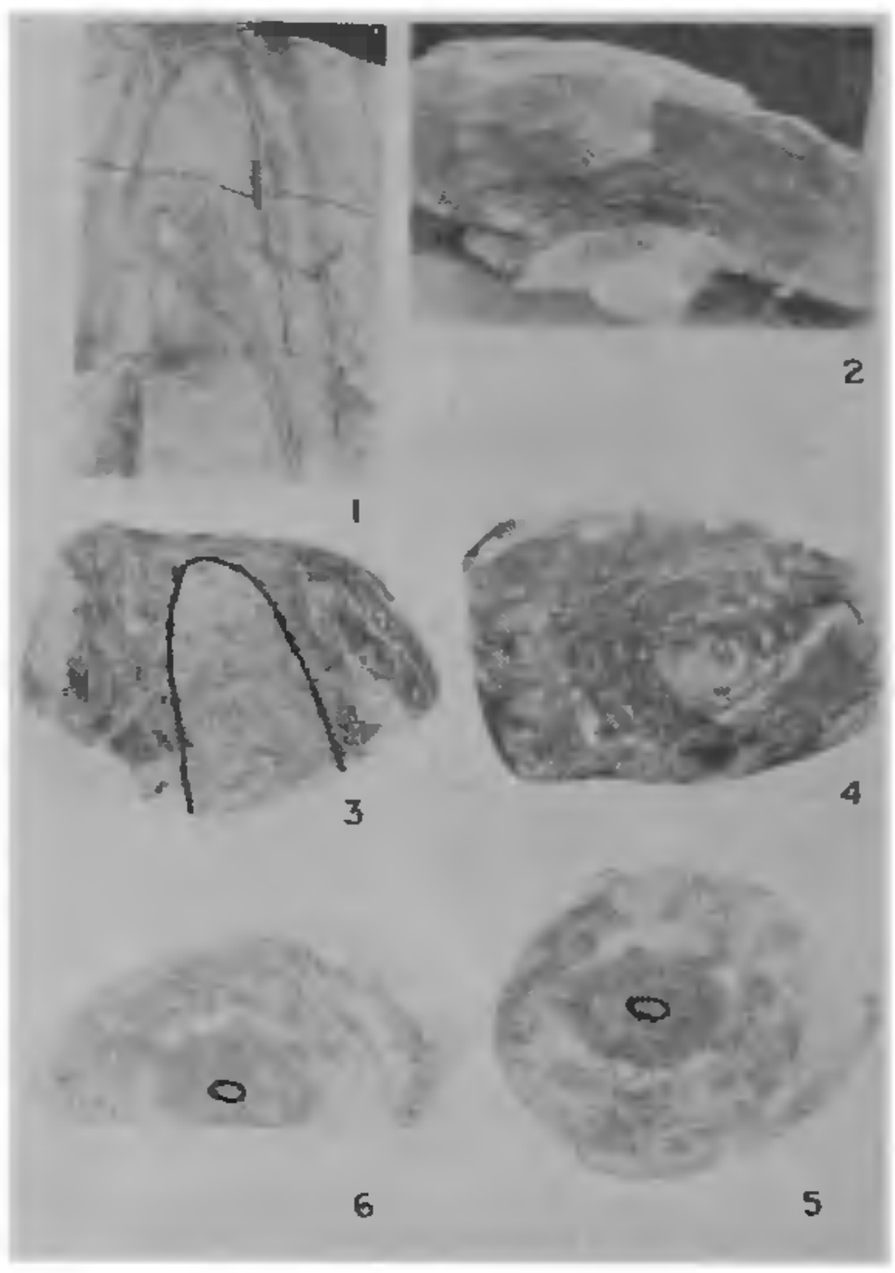

PLATE FIGS. 1–6.

Variety 1 :

Length is about 14 cm. ; diameter at the base is about 12·5 cm. ; axial zone is about 5·5 cm. wide at the base. Apical angle of the cones is 25° to 30°.

Variety 2 :

Length is about 7 cm. ; diameter at the base is about 6 cm. The axial zone is about 2·8 cm. wide at the base. Apical angle of the cones is about 35°.

The major differences between var. 1 and var. 2 are that the var. 2 is (*i*) smaller in size and (*ii*) darker in colour, than var. 1.

The oncolites typically occur as discrete spheroids (Plate Figs. 5, 6). The constituting units are randomly stacked circular (to sub-elliptical) laminae, arranged concentrically around a central nucleus. The longest and the shortest axes of the forms are 4 cm. and 3·5 cm. respectively. These structures are seen on the upper surfaces of the beds, and are not seen in vertical section. They are closely associated with *Conophyton cylindricus* and *Collenia*.

Work on oncolites, though rare, reveals that they are distributed throughout the stratigraphic column (Konishi, 1949 ; Johnson, 1963 ; Laporte, 1963).

Conophyton cylindricus has been described from South Africa, Sahara, Siberia, North America and China. In India, they have been reported from the Vindhyans (Fawn Limestone of the Semri Series) (Valdiya, 1969), the Jammu Limestone (Raha and Sastry, 1973) and from the Bijawars of Madhya Pradesh (Krishna Murthy, 1972).

Conophyton has been regarded as an important and reliable index fossil of the Precambrian (Komar *et al.*, 1965 ; Bertrand–Sarfati, 1970, 1972 ; Koroljuk, 1960 ; Raaben, 1969). Particularly, the form *Conophyton cylindricus* is characteristic of Lower Riphean (Krylov, 1960 ; Keller *et al.*, 1960 ; Zhuravleva and Komar, 1962). As a particular case, the relatively smaller forms of *C. cylindricus* with 6–8 cm. diameter are taken to be typical of the Lower Riphean within the absolute age limits of 1450–1430 m.y. (Komar *et al.*, 1965).

On the basis of *Conophyton cylindricus,* the Kapkot formation of the Calc Zone of Tejam, can easily be assigned a Lower Riphean age, and now be easily be correlated with the Jammu Limestone, the Semri Series (Vindhyans) and the Bijawars. Further, by analogy, the possible equivalents of the Kapkot formation (Bhattacharya, 1973, p. 37), *viz.*, Thalkedar Limestone of the Calc Zone of Pithoragarh, Upper Shali Limestone of the Simla Himalaya and the Krol Limestone of the Solon–Tons area, may also be assigned a Lower Riphean age.

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CHANGES IN AMINO ACIDS AND AMIDES INDUCED BY PAPAYA MOSAIC VIRUS IN PAPAYA PLANTS

PAPAYA mosaic virus (PMV) causing a very serious disease of papaya was reported from this laboratory by Capoor and Varma (1958). PMV-infected papaya plants are stunted and bear mosaic mottled, feformed and reduced leaves. The virus is mechanically transmissible and aphid borne. PMV is transmitted by aphids in stylet borne manner (Capoor and Varma, 1958 ; Singh, 1972) and also infects many cucurbitaceous plants (Capoor and Varma, 1958). Twenty to twenty-five days old healthy and vigorously growing *Carica papaya* Linn. cv 'Washington' plants were used for extraction and determination of free amino acids and amides. Fifty plants inoculated with PMV by sap inoculation method and fifty uninoculated control were kept under insect proof glass house. After one month of inoculation leaf (four youngest), stem and root samples were collected from both control and diseased papaya plants and amino acids and amides were determined both qualitatively and quantitatively by the method described by Thankappan and Chacko (1970).

As obvious from Table I, the quantity of amino acids and amides was maximum in leaves and minimum in roots. In healthy papaya plants