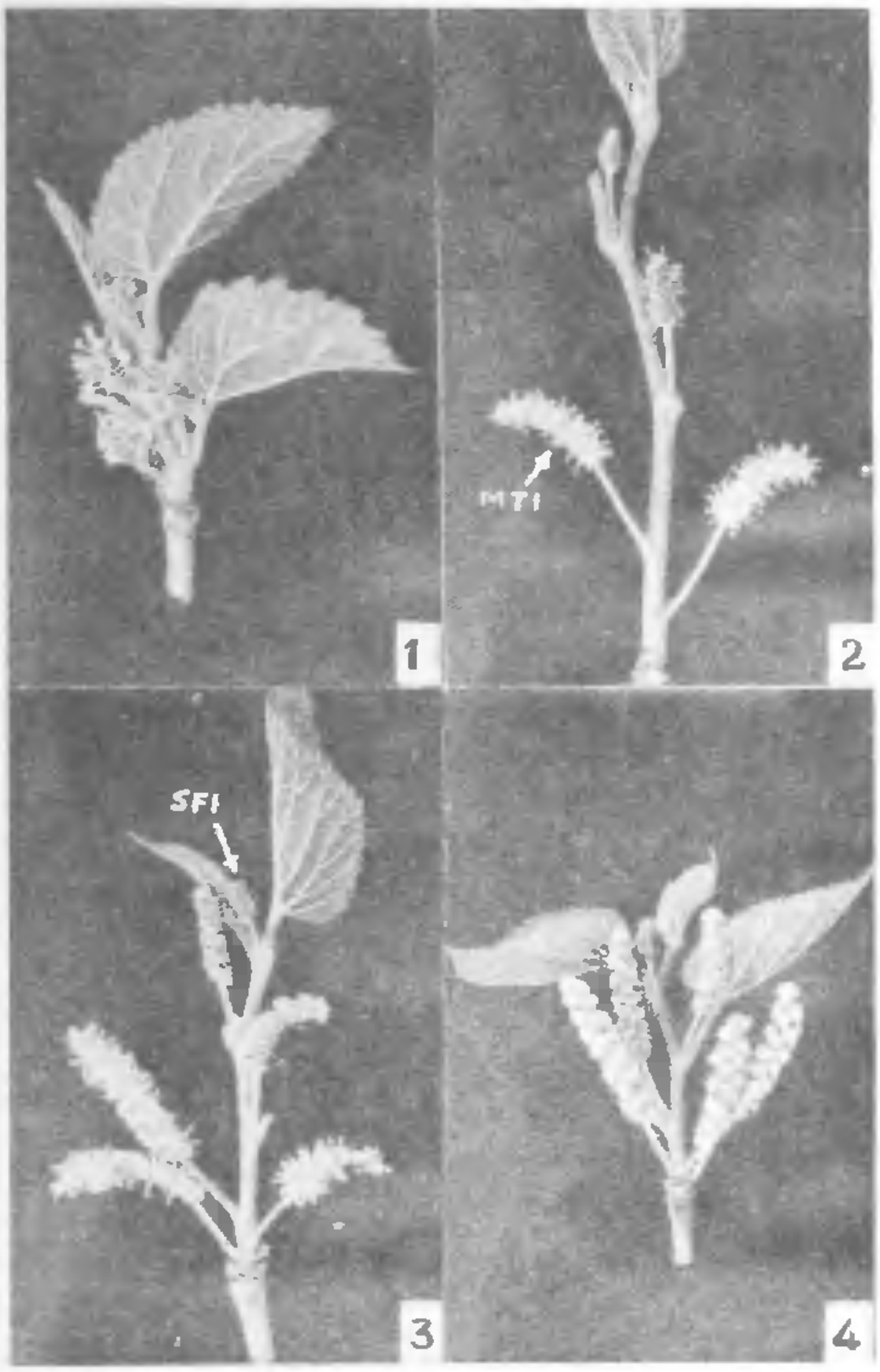

Figures 1–4. Control and colchicine treated flowering branches. **1.** Control branch bearing female inflorescences. **2.** Treated branch bearing famale, mixed type and male inflorescences. **3.** Treated branch bearing suppressed female and male inflorescences. **4.** Treated branch bearing only male inflorescences. (MTI-Mixed type inflorescence; SFI-Suppressed female inflorescence)

endogenous level of hormones or due to the induction of mutation by colchicine. Further studies are under progress to confirm either of the possibilities in this dioecious cultivar.

The authors are grateful to Dr M. S. Jolly, Director, for encouragement and facilities and to Smt. B. N. Susheelamma, Dr R. Kumar and Dr S. Ravindran for suggestions.

26 March 1984; Revised 17 July 1984

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ONCOLITES FROM THE DELHI SUPERGROUP

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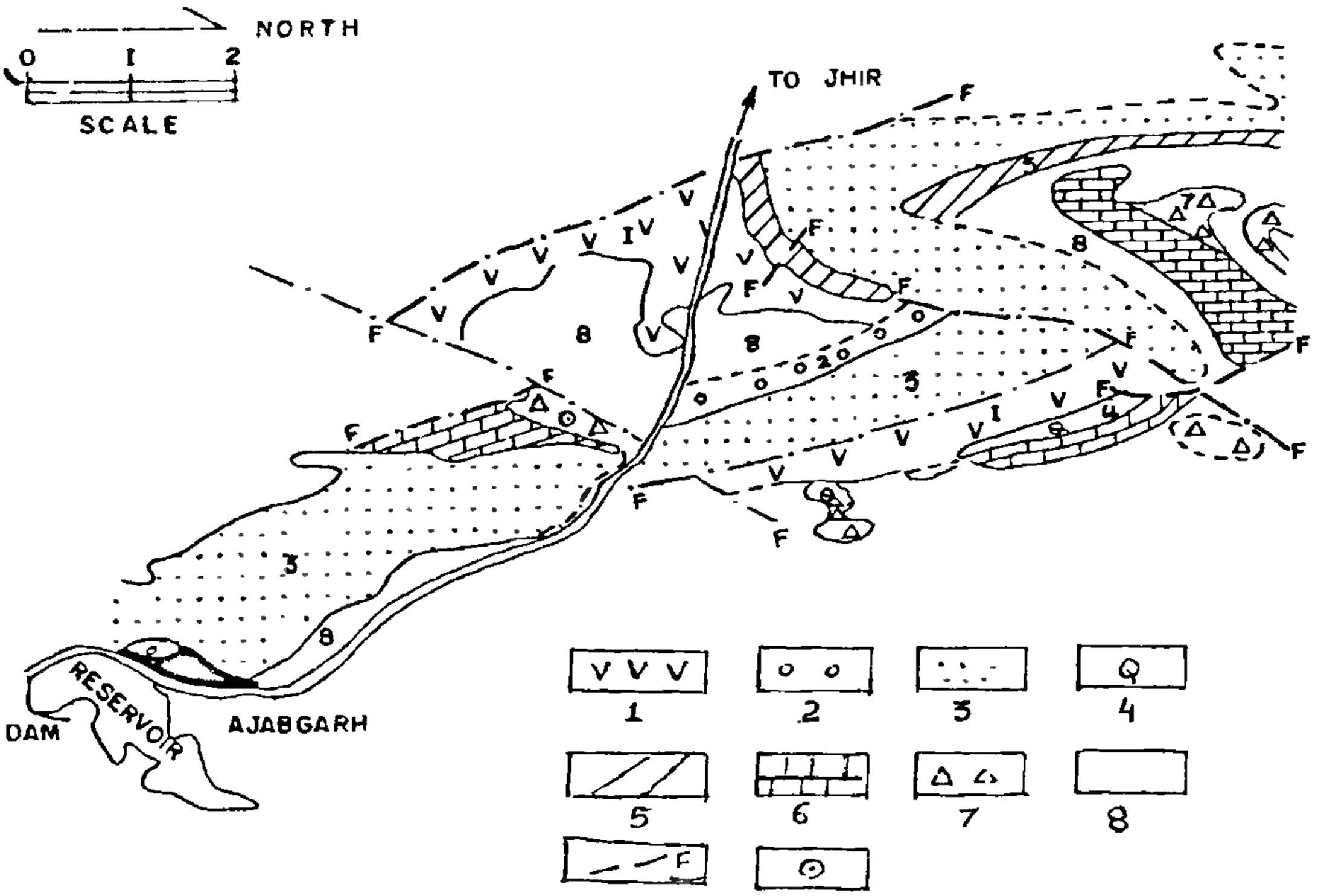
THE note reports the discovery of oncolites from the middle Proterozoic rocks of Delhi Supergroup in the North-eastern Rajasthan. The oncolites were recorded in the older formations of Ajabgarh Group around the area 5 km north of Ajabgarh village (27° 11′ : 76° 17′ 30″).

Geological Setting: The Ajabgarh valley has exposed various units of the Delhi Supergroup (figure 1). The oldest rock units are the basic volcanics belonging to the Raialo Group. These include massive to vesicular amygdaloidal basaltic flows, wherein vesicles are filled with the aggregates of quartz or calcite. The rocks of Alwar Group overlie the volcanics with profound unconformity. The basal beds (Rajgarh Formation) are marked by the conglomerate and arkose followed by the quartz-sericite schist and quartzite (Kankwari Formation). The conglomerate is essentially polymictic with clasts of quartzite, basic rock and quartz.

The Ajabgarh Group is marked by a carbonate and volcanic sequence in the lower parts and a psammopelitic assemblage in the upper parts. Out of the five formations of Ajabgarh Group, only two are exposed in the area considered. These are the Kushalgarh and Seriska Formations. The former is a banded siliceous marble with minor quartzite and phyllite partings within it. The latter is represented by silicified quartzite, breccia etc. The breccia shows fragments of



Location of oncolites

Figure 1. Geological map of Ajabgarh area, Alwar district, Rajasthan. **1.** Basic volcanics (Tehla Formation, Raialo Group) **2.** Conglomerate, **3.** Arkose and felspathic quartzite, **4.** Quartzite, **5.** Quartz-sericite schist, **6.** Banded marble, **7.** Silicified and brecciated quartzite, **8.** Alluviam. (2,3, and 4 are the constituent members of Rajgarh Formation, Alwar Group, 5 represents the Kankwari Formation, Alwar Group. 6 and 7 represent Kushalgarh and Seriska Formations respectively, both belonging to Ajabgarh Group)

quartzite, quartz-and phyllite set in a ferruginous matrix.

Oncolites: The oncolites were observed in the quartzite beds of Seriska Formation around 5 km northwest of Ajabgarh village. Though the algal stromatolites (*Collenia* Walcott, *Collenia baicalica* Maslov and *Jacutophyton* Shapovalova) have been reported earlier[1] from the Delhi metasediments, this is the first record of oncolites from this Supergroup. The oncolite belong to the Group *Osagia* Twenhofel. Because of the crystallization of the rocks the recognition of the internal structures has been rendered difficult. However, the oncolites could be recognised by their discrete to spheroidal structures (figure 2) and the biconvex lensoid to circular shapes (up to 1.5 cm across). In the polished sections (figure 3) the con-

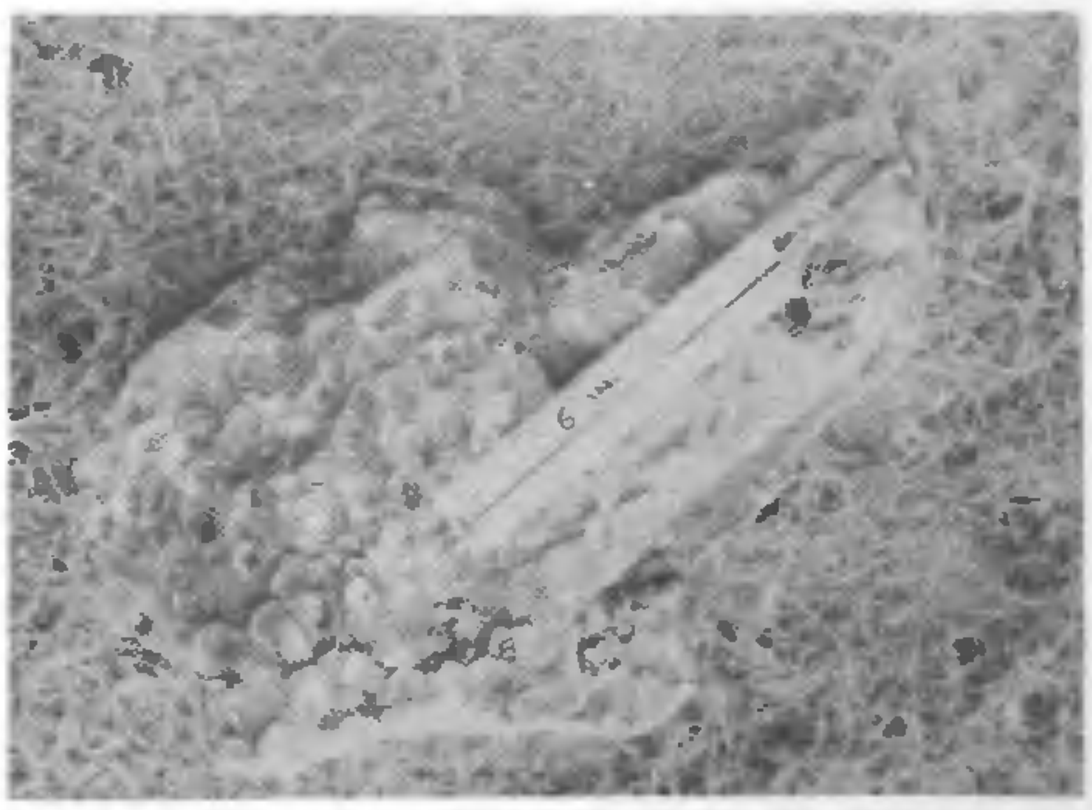


Figure 2. Surface view of the oncolite (Group osagia Twenhofel) exposed north of Ajabgarh village.

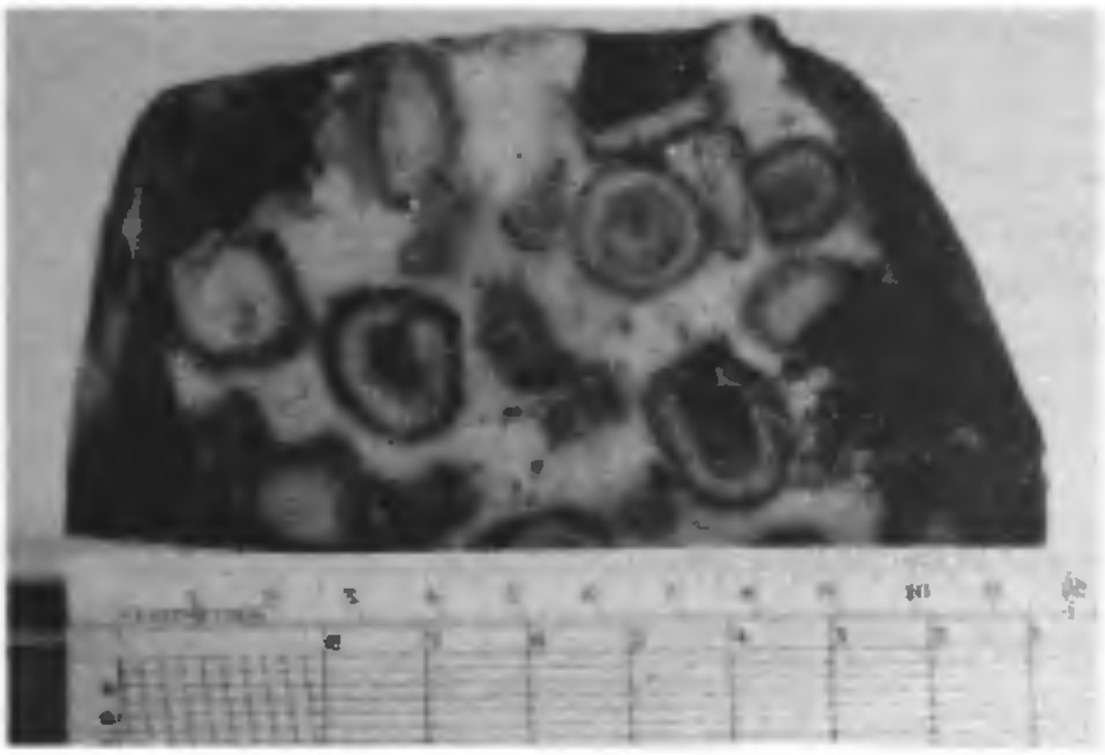


Figure 3. Cut and polished section of quartzite exhibiting inner structure of the oncolites.

centric rings around a nucleus are noted.

Since oncolites require periodic desiccation for their formation, their occurrence indicates palaeo-environmental conditions characterised by the dominently submerged shore water in the intertidal zone.

The assistance given by the Palaeontological Laboratory of the Geological Survey of India, Jaipur is gratefully acknowledged.

16 May 1984

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A LABORATORY TECHNIQUE FOR TESTING EFFICACY OF SOME NEMATICIDES AGAINST RICE ROOT NEMATODE

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IN earlier preliminary screening, carbosulfan 25 ST at 0.02% a.i. was used as seed treatment, against rice root nematode under agar tube culture and found effective in preventing the penetration of the host roots by the nematode up to a period of 30 days (unpublished). Using the same technique the study was extended, however, with carbofuran 3G and phorate 10G at 0.02% a.i. concentration.

Hoagland's[1] plant nutrient agar medium was dispensed into large tubes (20 cm × 3 cm) so that a third of each tube was filled with the medium. The tubes were plugged with cotton and sterilised at one kg pressure per sq cm for 20 min and allowed to set, keeping them erect in wire baskets. Seeds of paddy var. Jaya were first surface sterilised (0.1% mercuric chloride for two minutes and washed with three changes of sterilised water). The seeds so treated were divided into three lots. The first lot was soaked for 24 hr in sterilised tap water, the second and the third lots were also soaked for a similar period but in 0.02% a.i. of carbofuran 3G and phorate 10G respectively. Seeds from each lot were aseptically transferred into eight agar tubes at two per tube. Two days after germination, seedlings in each tube were aseptically inoculated with fifteen surface sterilised[2,3] rice root nematode larvae by placing them close to seeds where primary roots had emerged and entered the agar medium. Observations were recorded on the 10th, 17th and 20th days (table 1). Each tube with the seedlings was placed in boiling water to allow the medium to melt. Two to three drops of lactophenol cotton blue[4] were transferred by a dropper. The seedlings were moved into hot lactophenol cotton blue while the medium, now coloured blue, was poured into petri dishes. The intensity of blue colour of roots so treated was removed by soaking them in lactophenol so that nematodes within the roots could be observed clearly. The deeply blue coloured nematodes within the medium could easily be counted with the aid of a stereoscopic binocular dissection microscope. The nematodes found enmeshed in the clustered roots were taken as those not penetrated. Those either seen within roots directly, or teased out by needles under the microscope were included among those actually penetrated. The counts made of nematodes on the 10th, 17th and 20th day after inoculation within and outside roots and in lactophenol washings are presented in the table. In cases where nematodes were found either enmeshed with roots or in the lactophenol washings, used to wash the excess cotton blue off roots, it is presumed that they have been feeding on root epidermis. However, the results clearly show that the nematodes failed to penetrate the roots of seedlings from seeds treated with carbofuran, during the period of 20 days, although, they had penetrated by the 10th day, the roots of seedlings, from seeds treated with phorate and untreated control. This simple technique may prove useful as a quick method for comparing the