10–15 hours prior to processing for paraffin embedding. Free-hand sections were also cut. Both paraffin embedded and free-hand sections were stained in safranin and fast green, and mounted in Canada balsam. Lignin was tested with phloroglucinol and hydrochloric acid.

In transection of the stem, there is a peripheral photosynthetic region with fibro-vascular girders, and an inner colourless region with vascular bundles scattered in the ground tissue. Besides their normal position in the epidermal cells of the costal regions, silicified processes were observed in connection with one or two vascular bundles of the colourless region. Here the silicified processes occur in the cells of the ground tissue abutting against the bundle sheath on the lateral side of the vascular bundle (Fig. 1). Like the subepidermal fibres, the cells

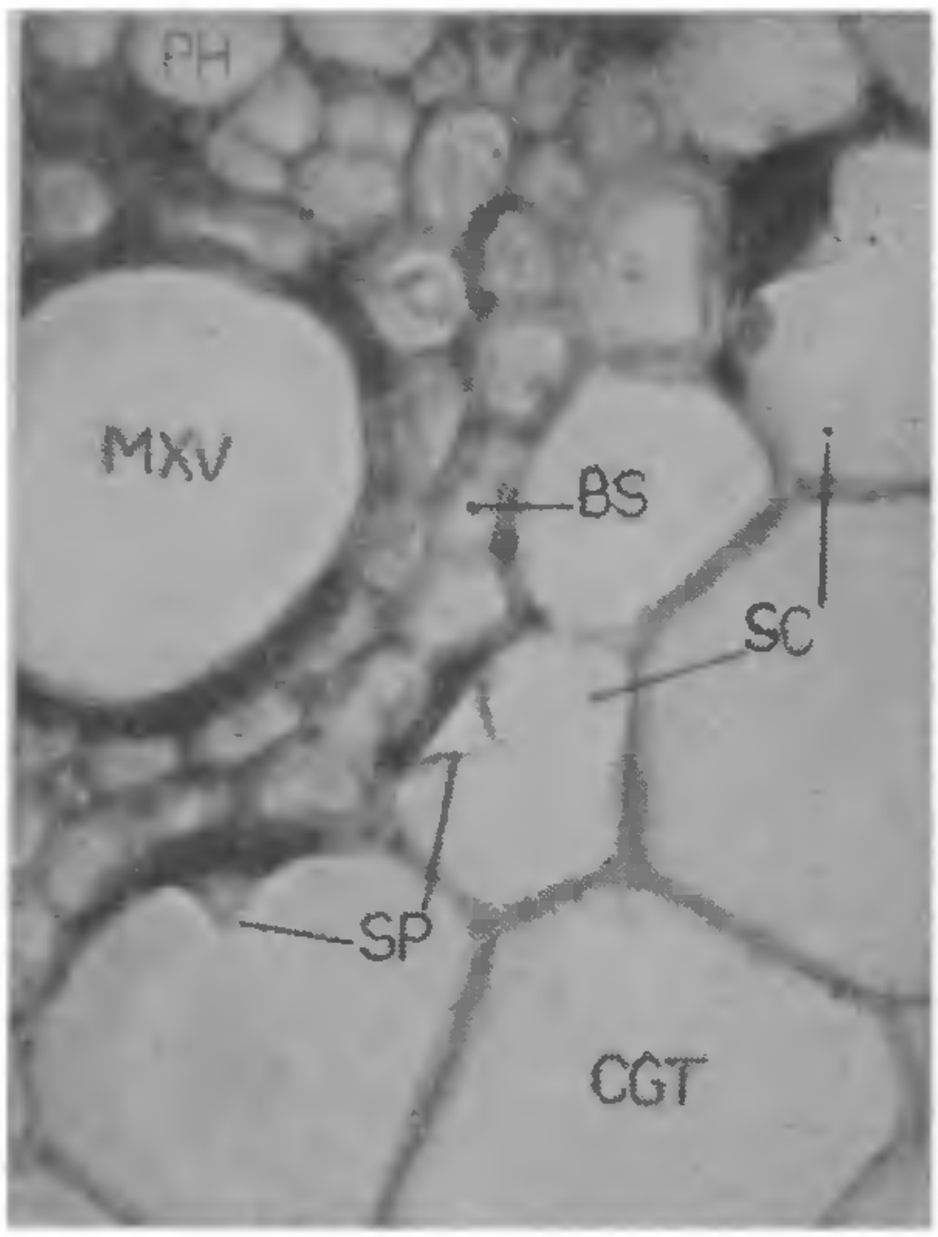

FIG. 1. A portion of colourless region from the transaction of stem of *Carex condensata* showing silicified processes in connection with the bundle sheath, × 1,250. (BS, bundle sheath; CGT, Colourless ground tissue; MXV, Metaxylem vessel; PH, Phloem; SC, Silica cell; SP, Silicified process).

of the bundle sheath are thick-walled and lignified. The structure of the silicified processes is exactly like those found in the epidermal cells—hollow body of silica fitted on a lignified, conical projection of the inner tangential wall of silica cell.

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A PALM LEAF FROM THE DECCAN INTERTRAPPEAN SERIES, MOHGAON KALAN (M.P.), INDIA

A well-preserved specimen of a palm leaf was collected by us from Mohgaon Kalan in Chhindwara District, M.P. India. The leaf is incomplete as it shows the middle part of the lamina. The specimen is quite large—it is 50 cm broad and 25 cm long.

Only the middle part of the lamina is preserved which is palmate plicate with a prominent midrib at each fold. Each fold of the lamina is 7 cm broad towards the basal end and becomes broader upto 11 cm towards the apical side. The veins of each fold nearly 150–160 run parallel from the basal end upto the middle and then slightly diverge towards the apical end. Stomata could not be made out. The basal end of the lamina is not preserved, therefore, nothing regarding the attachment of the lamina to the petiole is known (Fig. 1).

FIG. 1. Photograph showing the leaf impression, × 1/8.

Palmate palms to which our fossil belongs include all sabaloid and borassoid palms. In different genera of sabaloid palms the breadth

of each fold of leaf lamina ranges from 1·3 to 3·9 cm. In *Latania*[1] a borassoid type of palm, the breadth of each fold varies from 7·8 to 9·1 cm which is comparable to our specimen (7–11 cm). As the specimen is incomplete, all that can be said regarding its affinities is that it is likely to be the leaf of a borassoid type of palm. Although a large number of palm stems have been described from the Deccan Intertrappean series[2] as far as the authors are aware, this is probably the first record of a palm leaf from this series.

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TETRAPLOID CHROMOSOME NUMBER IN THE GENUS *SPILANTHES* LINN.

COVAS and Schnack[2] have reported the chromosome number, $2n = 26$, in *Spilanthes decumbens*, L. However, the available literature shows no record of the chromosome number in another species *acmella* of the same genus. This species includes annuals which are erect or ascending with hairy stems and branches, and leaves which are opposite, ovate, acute, serrate and petiolate; heads are $\frac{1}{4}$" to $\frac{3}{4}$" long and solitary with long peduncles. Ray florets are generally absent. These annuals are cultivated for ornamental and medicinal purposes. The heads when chewed give hot burning taste and cause profuse salivation. They are generally chewed for getting relief from cough (Cooke[1]).

This species was collected from Maharajbagh, Nagpur, in the year 1968 and was grown in pots in the Botany Section of this College. It was studied cytologically for chromosome number and behaviour. For meiotic and pollen grain studies 1% aceto-carmine technique was used. The chromosome count was made at diakinesis and metaphase I of meiosis.

Earlier stages of prophase I could not be studied because of comparatively large chromosome number in a small-sized pollen mother cell. At diakinesis 26 bivalents could be clearly counted (Fig. 1), out of which two bivalents were seen attached to the nucleolus, thereby pointing to the tetraploid nature of the species. The association of chromosomes was purely in the form of bivalents. No quadrivalent, trivalent and univalent were noticed at diakinesis. Metaphase I also showed 26 bivalents. At anaphase I 26 chromosomes were found at each pole. Metaphase II and anaphase II were found to be regular thereby leading to the formation of fertile pollen grains to the extent of 99%.

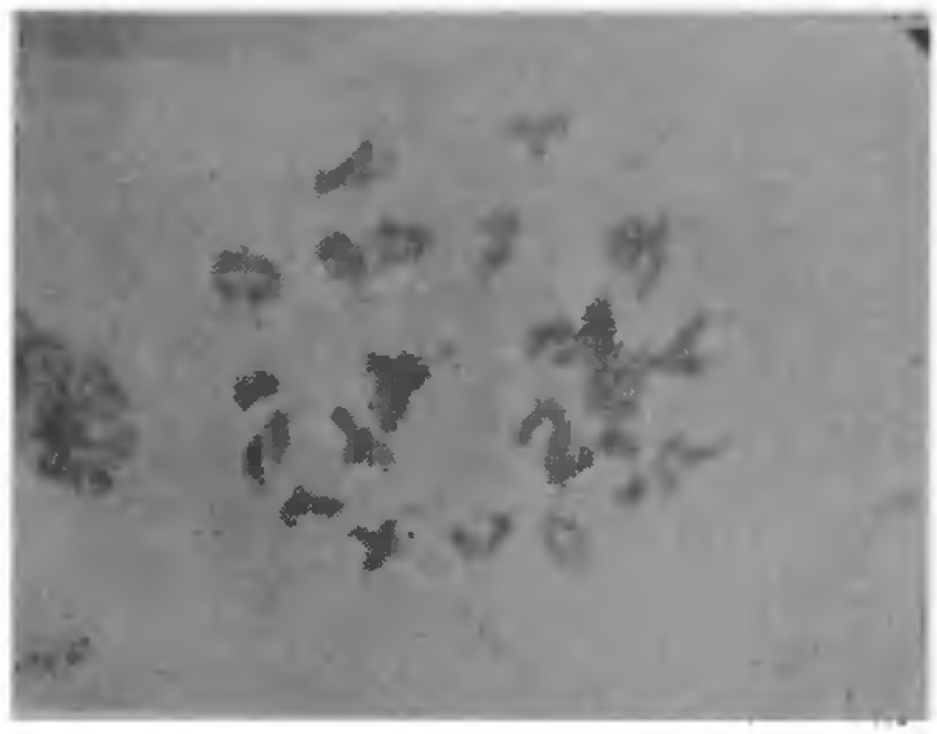

FIG. 1. Shows 26 bivalents at diakinesis × 1,000.

From the fact that no cytological absormalities were found at different stages of meiosis I and II and the formation of fertile microspores, the allotetraploid nature of the species is confirmed.

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A NOTE ON *MELIOLA JUTTINGII* HANSF. ON *PANDANUS ODORATISSIMUS* L. FROM KERALA

A sooty mould was collected by the author from Tellicherry, S. India, during January 1970 on the leaves of *Pandanus odoratissimus* growing near a stream. Further critical examination showed this to be a species of the genus *Meliola*, viz., *M. juttingii* Hansf[2].

The epiphyllous colonies form dense black spots more or less completely covering the leaves. The dark superficial mycelium is branched and septate (Fig. 2). The length and diameter of the mycelial cells are almost uniform throughout—21–23 $\mu \times$ 12–13 μ. Branching is mostly alternate, very rarely opposite.

Hyphopodia are of two types: capitate and mucronate. The capitate hyphopodia (Figs. 2 and 3) are two-celled and arise laterally. They are mostly alternate, very rarely opposite. The terminal cell is sub-globose, 36–37 $\mu \times$ 25–26 μ, and slightly bent forwards. Almost every cell