Insect transmission, using aphids (*Aphis gosypii* Glover) and whiteflies (*Bemisia tabaci* Gen.) and carried out as per the procedures described earlier[1] indicated that the disease *per se* was not transmitted either by aphid or whitefly and these insects were not the vector of the disease.

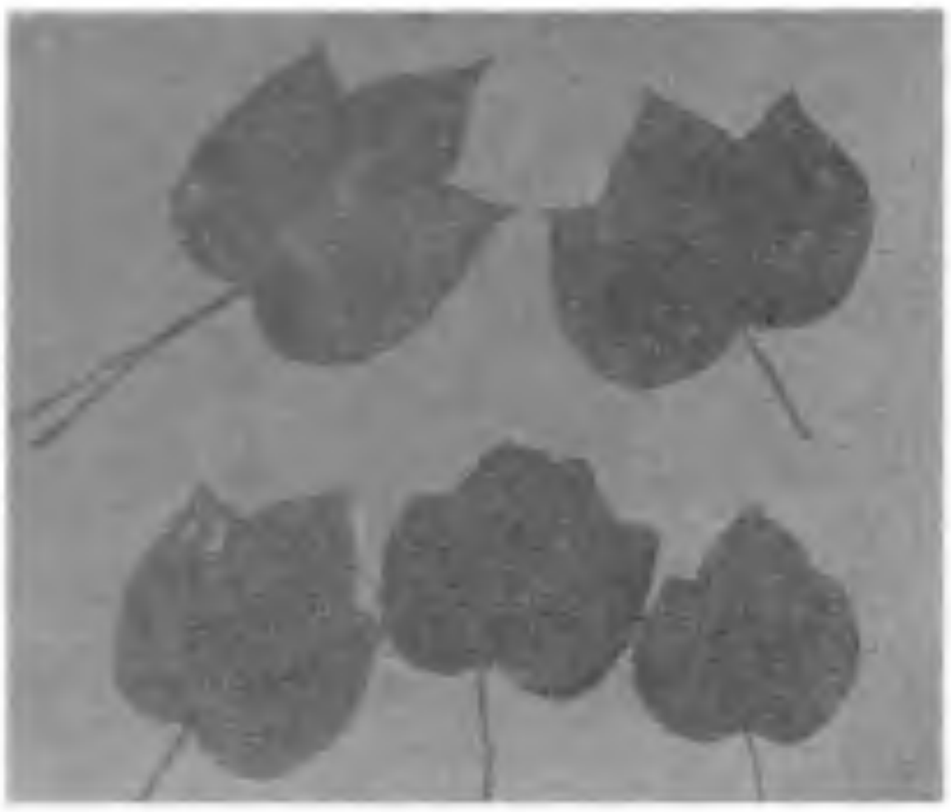

FIG. 1. Leaves of H–5 cotton displaying the symptoms of chlorosis of areas near major veins and veinlets and veinal necrosis.

FIG. 2. A branch of H–5 cotton plant displaying the symptoms of sudden wilting. Note also veinal necrosis and blackening.

The present virus disease differs from other virus diseases[4–6] in symptomatology and insect transmission. The present virus disease differs from cotton leaf curl and mosaic (Bink,[1] El–Nur and Abu–Alih[3]). Moreover, the present disease also differs from tobacco streak (Costa[2]), tobacco ringspot (Rush[8]) and tomato ringspot (McLean[7]) virus infections of cotton in symptomatology and in mechanical transmission. Therefore, the present viral wilt seems to be a new disease hitherto unrecorded on cotton.

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A NEW BASE NUMBER FOR THE GENUS *BUNIUM* L.

TRIBE Apieae of Umbelliferae, to which *Bunium* belongs comprises of about 76 genera, 24 of which are polybasic and 52 monobasic. *Bunium* falls in the former category because the six counts known for the three species of this genus are multiple of two basic numbers —10 and 11. *B. persicum* is, however, known to be monobasic, having $n = 11$[2].

During a survey aimed to assess genetic diversity among Himalayan umbellifers, the authors scanned three populations of *B. persicum*, all individuals of which uniformly carried a diploid count of 14 (Fig. 1).

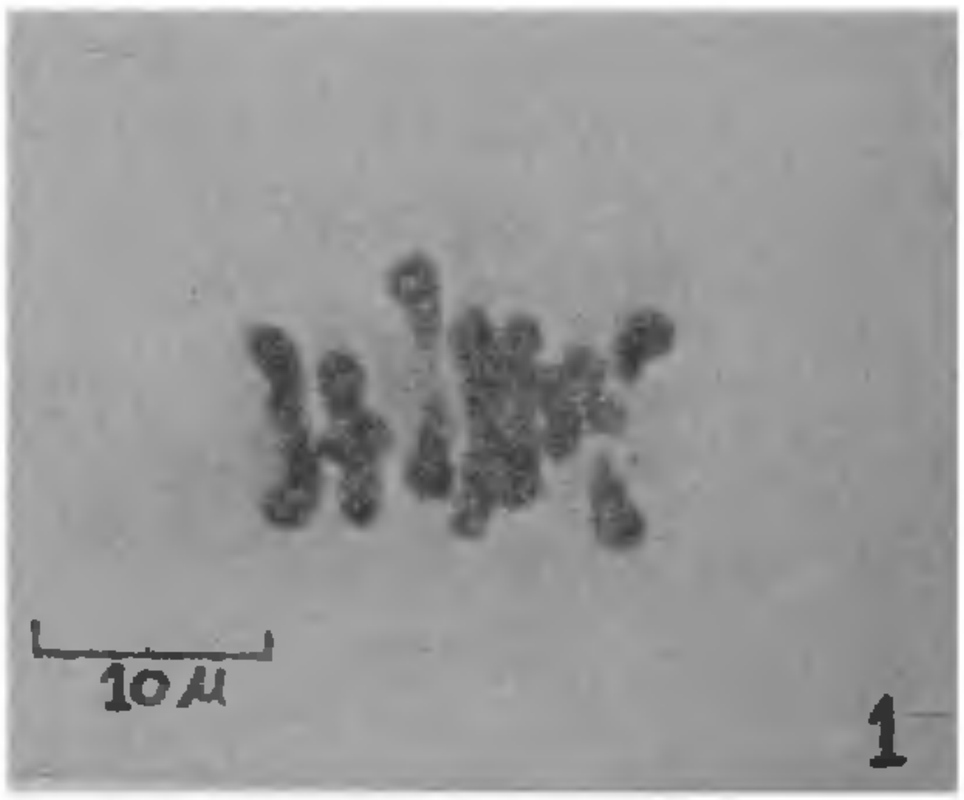

FIG. 1. Metaphase I of P.M.C. meiosis showing 7II lined at the equatorial plate, × 2,333.

Voucher specimen of the representative plant with this number has been deposited in the Jammu University herbarium under No. IAH 6. This number is not totally new to tribe Apieae, being represented exclusively in three genera and in conjucture with other numbers in another four genera. The count is, however, neither known in any representative of genus *Bunium* nor even in related genera, *Carum*, *Conopodium* and *Geocaryum*.

Although in general, lower counts are preferred as fundamental numbers in different plant and animal groups, in sub-family Apioideae of Umbelliferae, 11 is regarded as the deep seated number[3] from which other numbers are believed to have arisen through progression as well as reduction. The fact, that chromosome number 14 is represented in populations of *B. persicum* far removed from the centre of origin of the species, supports the view that it is a derived number.

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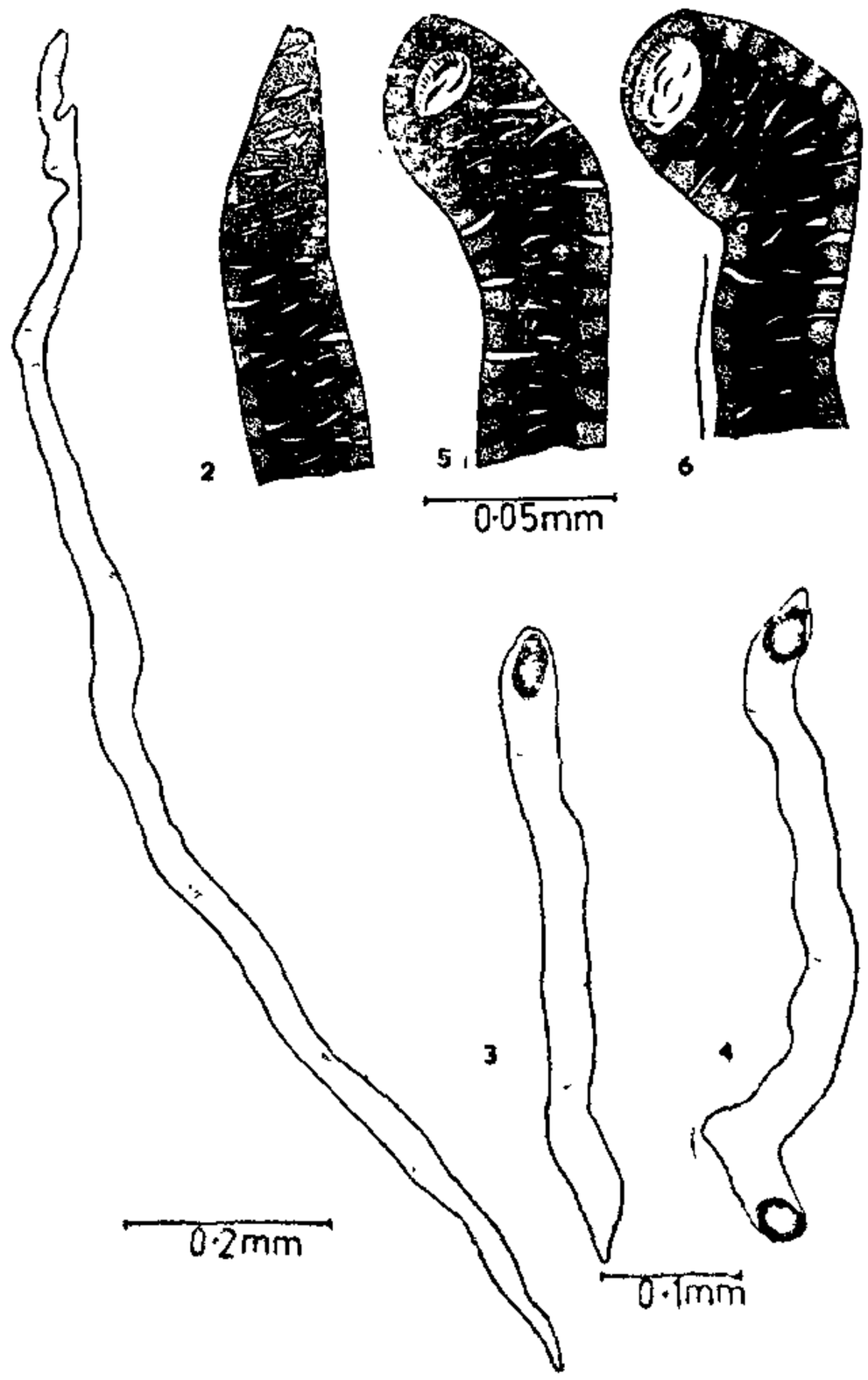
OCCURRENCE OF VESSELS IN *HELMINTHOSTACHYS ZEYLANICA* (LINN.)

True vessels have been reported to occur in seven pteridophytic genera, *viz.*, *Pteridium*, *Selaginella*, *Equisetum*, *Marsilea*, *Regnellidium*, *Notholaena* and *Woodsia*[2,4,6]. Tracheary elements of Pteridophytes including the members of Ophioglossales have received considerable attention of Bierhorst[1,2] and White[6]. In the present work, during a detailed study of tracheary elements of Ophioglossales, true vessels have been observed in *H. zeylanica* L. The standard technique of maceration[7] was followed. A few longitudinal microtomic sections prepared by customary methods of dehydration and embedding were also studied for verification.[3]

The tracheids commonly observed are directly or indirectly attached annular, reticulate, and reticulate-pitted. The typical tracheids are quite long with a mean length of 1·50 mm and a mean diameter of 0·027 mm only (Fig. 1). Both the ends are tapered and they overlap each other along their length. Apart from these typical tracheids, it was not uncommon to observe some tracheary elements having specialized oblique end plates either at one or both ends, in both rhizome and root (Fig. 2). This type of tracheary elements show a close approach to vessel members; they do not have any true perforations in their end plates. Such tracheary elements have been referred to be presumptive vessels by White[6]. Furthermore, several small tracheary elements were observed in rhizome with near about transverse end plates having true openings in the centre, at one or both the ends (Figs. 3–6). These tracheary elements measure 0·66 mm in mean length; 0·048 mm in mean diameter and have dense reticulate thickenings on their lateral walls. They are similar to the true vessels as described for *Marsilea*, *Notholaena* and *Woodsia*[4–6] but do not resemble the vessel members of Gnetales, where usually the tracheary elements have a few foraminate openings at the oblique end plates. These openings fuse to form the aperture.



Figs. 1–6. Fig. 1. A typical tracheid with both the ends tapered. Fig. 2. A presumptive vessel showing oblique end plate. Figs. 3–4. True vessels showing opening on one or both ends respectively. Figs. 5–6. Terminal portions of true vessels magnified to show different size of openings.