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Figure 1. 22 bivalents of diakinesis.

Figure 2. 22 bivalents at metaphase.

NATURAL TETRAPLOIDY IN THE GENUS *FAGONIA* L. (ZYGOPHYLLACEAE)

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FAGONIA L. comprises about 50 species mainly distributed in the dry regions of the old and new world. Only 8 species have been subjected to cytological investigation so far; the chromosome numbers reported[1-3], suggest that the genus is tetrabasic with basic numbers 9, 10, 11 and 12.

During the course of the revision of the Indian species of *Fagonia* L., cytological studies on some of the taxa occurring in Rajasthan and Gujarat were carried out to assess the possibility of utilising the data for taxonomic treatment.

The chromosome numbers were determined from acetocarmine squashes of pollen mother cells after fixing the flower buds in cornoy's fluid (6:3:1). The haploid chromosome number in *Fagonia bruguieri* DC. var. *rechingeri* Hadidi collected from Jaisalmer, Rajasthan (Voucher No. P. Singh-7181, BSJO) was found to be 22 (figures 1 & 2). Incidentally it is not only the first chromosome report for this taxon but is also the only record of natural polyploidy in the genus; the other species of *Fagonia* L. reported so far, are all diploids with $n = 9$, 10, 11 and 12. The chromosome showed normal pairing, resulting in the formation of 22 bivalents. These bivalents were usually of ring type with both terminal and interstitial chiasmata. No multivalent associations were found, thus suggesting that it is of allopolyploid origin. Meiosis was regular and normal tetrads were formed. The fertility of the pollen grains as ascertained by their stainability with acetocarmine was 92.5% and they measured 32 × 23 μ. *Fagonia bruguieri* DC. var. *rechingeri* Hadidi has hitherto been reported only from Iraq, Iran, Afghanistan and Pakistan[4]. The present report from Jaisalmer is, therefore, the first record of its occurrence in India. This variety differs from typical variety *bruguieri* in having all leaves unifoliolate, sparcely glandular to glabrous.

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A NEW EPIPHYLLOPHYTIC TERRESTRIAL HABITAT FOR *COLEOCHAETE SCUTATA*

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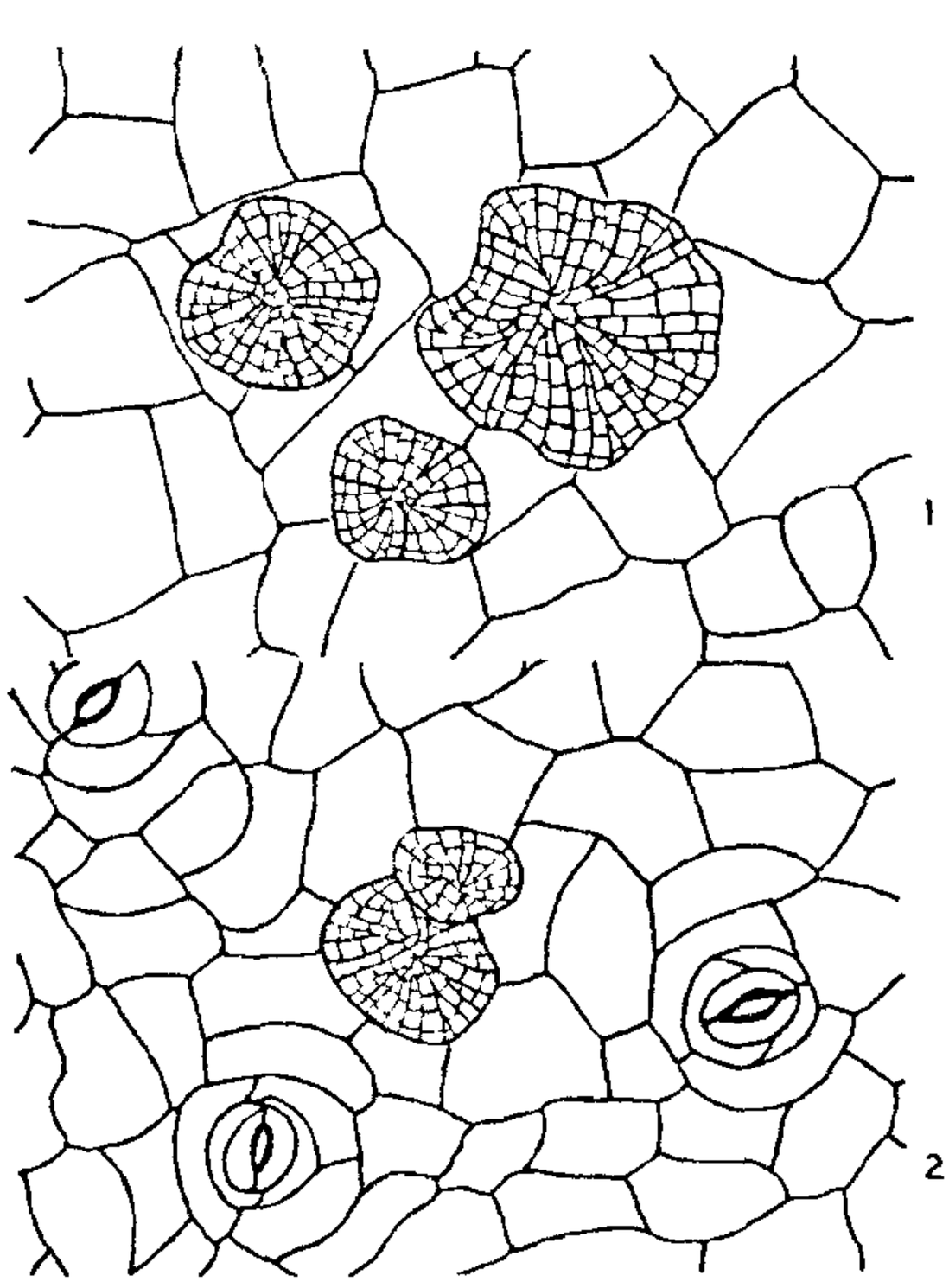
COLEOCHAETE occurs as epiphyte on hydrophytes[1]. There is no record of this taxon to occur on terrestrial epiphyllophytic habitat. During the course of extensive study of the members of the Asclepiadaceae, we came across *Coleochaete scutata* Berb., on the foliar epidermis of *Hoya retusa* Dalz.



Figures 1 & 2. 1. Upper epidermis of *Hoya retusa*, **2.** Lower epidermis of *Hoya retusa* showing *Coleochaete*.

Coleochaete is present on the upper as well as lower epidermis (figures 1 & 2) but is more frequent on the upper epidermis.

Hoya retusa grows as an epiphyte on *Artocarpus* sp. and *Ficus* sp. and is confined to *semievergreen* or evergreen forests. The special circumstances under which *Coleochaete* appears to have become epiphyllophytic were due to the growth of *Hoya* down to the level of water during the rainy season. Under these changed conditions *Coleochaete* could have thrived well on the epidermis. Further, there is high humidity and heavy rainfall in such rain forests. The large number of individuals on the upper epidermis can be attributed to the channelled (midrib groove) leaves which provide ideal hydrophytic conditions. Thus *Coleochaete* is able to thrive as an epiphyte on *Hoya* since the latter provides hydrophytic conditions.

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A CASE OF DIPLOSPORY IN *LUFFA CYLINDRICA* LINN.

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THE members belonging to the Cucurbitaceae are of great economic importance as they yield edible fruits. The embryological literature on the taxon has been reviewed by Davis[1], Barber[2], Karlzer[3]. Singh[4] studied the seed structure in *Luffa cylindrica*. The present authors working on histochemical aspects during different stages of seed development came across apomictic development of embryo sac in *L. cylindrica*, commonly known as vegetable sponge. It is a trailing herb cultivated throughout the country.

The flowers and fruits of various sizes fixed in FAA and processed in ethanol-xylene series were embedded in paraffin. Sections cut at 8 to 10 μm were stained with Delafield Hematoxylin. The features in the development of megasporogenesis and megagametogenesis