

Table 1 Measurements of stomatal size (μ) and frequency

Species	Ploidy level 2n =	Size of stomata (μ)		Stomatal index		Trichomes	
		Lower	Upper	Lower	Upper	Lower	Upper
Celosieae							
<i>Celosia cristata</i>	36	26 × 21	24 × 21	27.8	14.1	—	—
<i>Celosia argentea</i>	36	33 × 23	32 × 23	29.8	25.5	—	—
Amarantae							
<i>Amaranthus tricolour</i>	34	26 × 22	25 × 19	15.5	3.7	—	—
<i>A. gracilis</i>	34	26 × 19	23 × 16	35.0	21.0	—	—
<i>A. blitum</i> var. <i>oleracea</i>	16	27 × 17	27 × 19	32.5	21.0	—	—
<i>Digera alternifolia</i>	12	27 × 19	28 × 18	23.5	21.6	—	—
<i>Aerva lanata</i>	16	25 × 17	25 × 17	19.1	17.1	+	—
<i>Aerva tomentosa</i>	36	24 × 19	29 × 22	22.0	9.8	+++	++
<i>Pupalia lappacea</i>	50	30 × 23	28 × 22	24.3	10.2	++	+
<i>Achyranthes aspera</i>	14	24 × 17	26 × 18	31.3	26.2	+++	++
<i>Iresine lindenii</i>	*	18 × 16	23 × 18	26.8	13.4	++	+
Gomphreneae							
<i>Alternanthera pungens</i>	68	28 × 22	23 × 17	23.2	19.5	+	+
<i>Gomphrena globosa</i>	32	31 × 23	28 × 33	22.2	15.0	+	++

— absent; + low frequency; ++ moderate frequency; +++ high frequency; * not known.

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THE ACTION OF MALEIC HYDRAZIDE ON *EUASTRUM VERRUCOSUM* EHRENB

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VERY little information is available on the mitotic inhibition and chromosome aberrations in various angiosperm plants¹⁻⁴ although the effect of maleic hydrazide on algal members was studied⁵⁻¹¹. During the present investigation the effect of maleic hydrazide was studied on one of the placoderm desmid *Euastrum verrucosum* Ehrenb.

The clonal unialgal cultures were established in Chu 10 inorganic medium and maintained at 21 + 2°C, receiving alternately 16 hr light and 8 hr dark periods. The species was treated with various concentrations of

maleic hydrazide (0.0001%, 0.001%, 0.01%, 0.1% and 1%). Fixation was made after 48 hr of the treatment with different concentrations of the chemical for cytological studies. Godward's^{1,2} acetocarmine method was followed in fixing and staining the cells. Ten slides were prepared from the treated sample and from each slide 10 fields of view were scored for mitotic index and cytological observations.

The increasing concentration of the chemical showed inhibition of cell division (figure 2). Regarding cytological variations, among all the concentrations employed, 0.01% concentration showed maximum chromosome breakage (figure 1B). The normal chromosome number in the species being $n = 16$ (figure 1A).

It was observed that with increasing concentration of maleic hydrazide there was a gradual decline in the mitotic, division compared to control. Chromosome breakages obtained with the concentration of 0.01% maleic hydrazide was similar as shown earlier⁸ on *Vicia faba*.

The authors are thankful to CSIR for financial help.

25 February 1985

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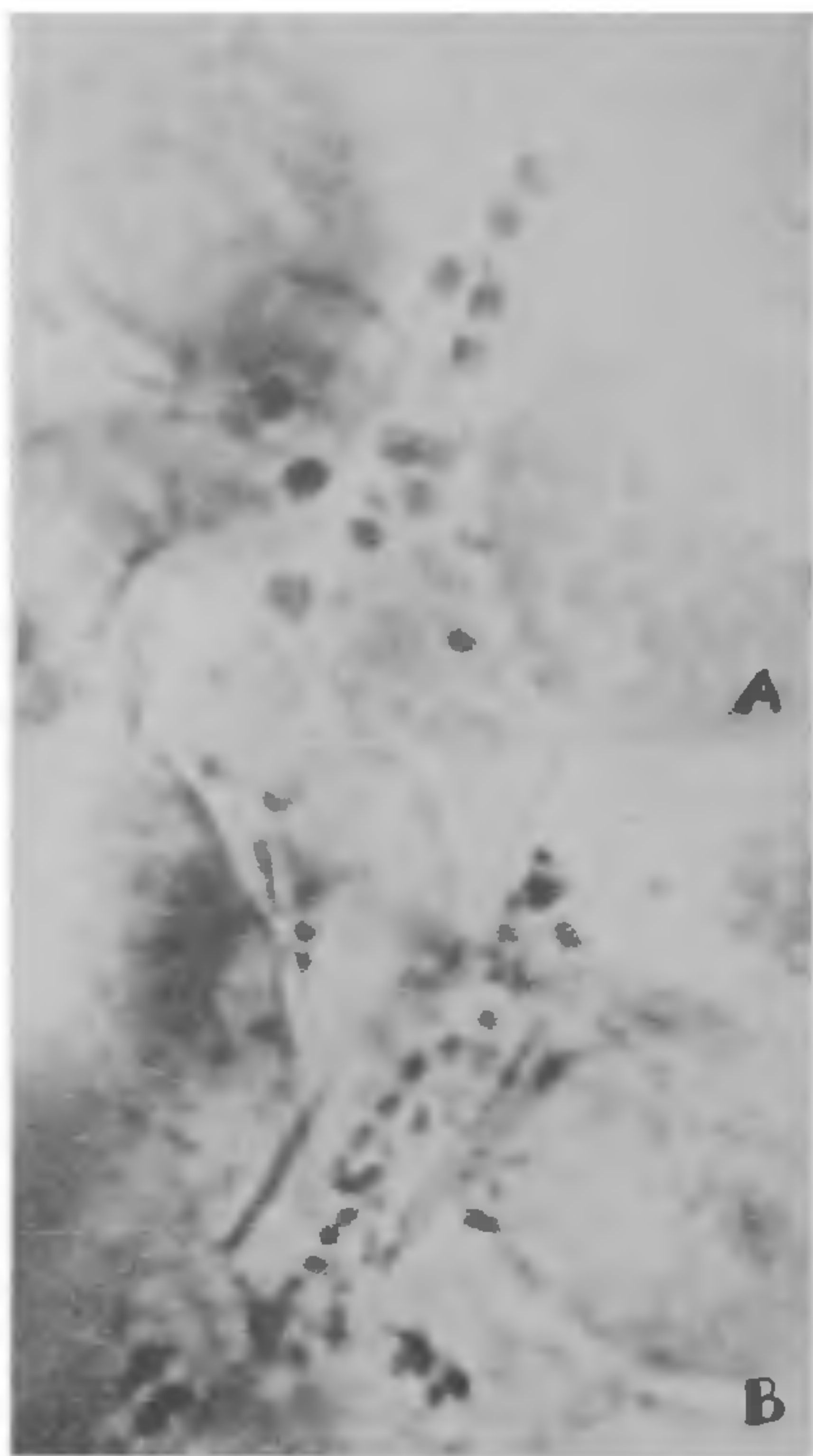


Figure 1. A. Normal cell with 16 chromosomes and B. 0.01 % conc showing chromosomal breakage.

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FIRST RECORD OF PACHYNEURON APHIDIS (BOUCHE) (PTEROMALIDAE: HYMENOPTERA), A HYPERPARASITOID OF DIAERETIELLA RAPAE (M'INTOSH) (APHIDIIDAE: HYMENOPTERA) FROM INDIA.

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DURING the collection of aphids and parasitoids around Gorakhpur region in 1982-83 and 1983-84, a hyperparasitoid of *Diaeretiella rapae* was found emerging from the aphid mummies of *Lipaphis erysumi* (Kalt).

This hyperparasitoid was identified by C I E, London as *Pachyneuron aphidis* and for the first time reported from India. The hyperparasitoidisation of *D. rapae* starts from the second week of March and continues up to the end of the season causing mortality of the parasitoid to the extent of 30-40%. The adults are about 1 mm in length and dark blackish-brown in colour. The antenna is 7 segmented, the first segment is larger than the others and is round and pointed. Abdomen is conical and almost equal to the half of the body. Leg spinose, hind leg is larger than the fore leg.

Authors thank CSIR and ICAR, New Delhi, for financial support and CIE London for identification of this hyperparasitoid.

14 February 1985; Revised 16 April 1985

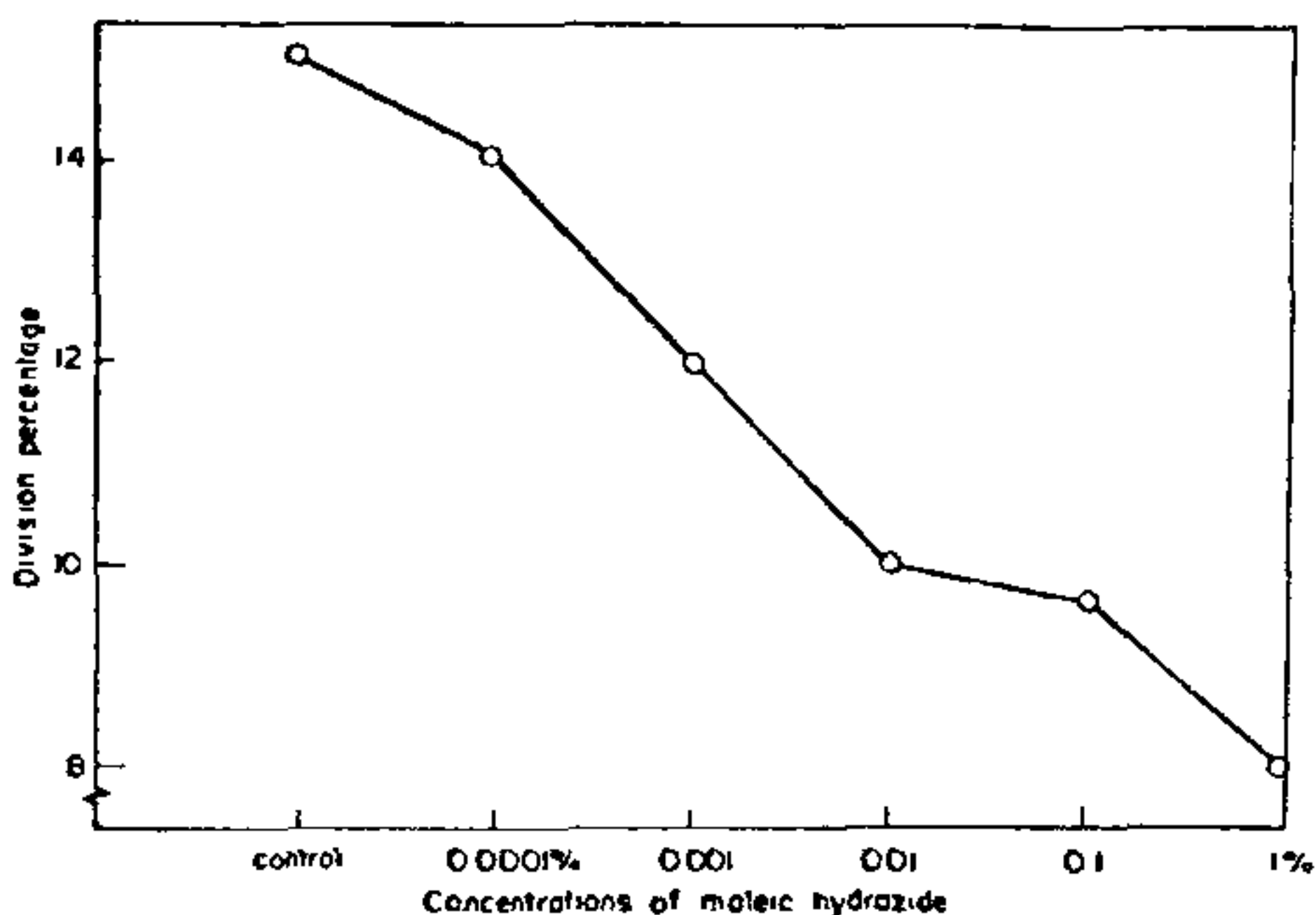


Figure 2. *Euastrum verrucosum* Ehrenb.