TABLE I

Progenies from self-pollinated, open-pollinated crosses between striped and green parents of C. aquatica *and* C. gigantea

Pollinations	Seedling progeny			
	Green	Striped	Yellow or white lethals	Total
C. aquatica				
1. Striped plant self-pollinated ..	78	..	1	79
2. Striped plant × Green plant (F_1) ..	102	..	1	103
3. Striped plant open pollinated ..	166	..	2	168
4. Striped plant × Striped plant ..	92	..	1	93
5. F_1 green plant (from item 2 above) self-pollinated (F_2)	75	..	..	75
6. Green plant × Striped plant (F_1) ..	118	..	..	118
C. gigantia				
1. Five tillers of a Striped plant self-pollinated ..	129	1	4	134
2. Three tillers of the same Striped plant × Green plant ..	71	1	3	75
3. Green plant × Striped plant ..	148	..	..	148
4. Two tillers from the Striped plant × Green tillers from the same striped plant ..	61	1	2	64

or plastids of the egg. Accordingly the inheritance of striping, in the present study, may be explained on the basis that, irrespective of the male parent, zygotes formed on the green portions of the plant contain green plastids and produce only green offspring, those borne on the yellow or white portions have yellow or colourless plastids and give rise to only yellow or white lethals, and those developed on the adjoining regions of yellow and green have both yellow and green plastids and produce striped seedlings in the progeny. Since the proportions of white or yellow regions, compared to green areas, in the striped parents were much smaller, the frequency of white or yellow lethals obtained in the progenies was also far less.

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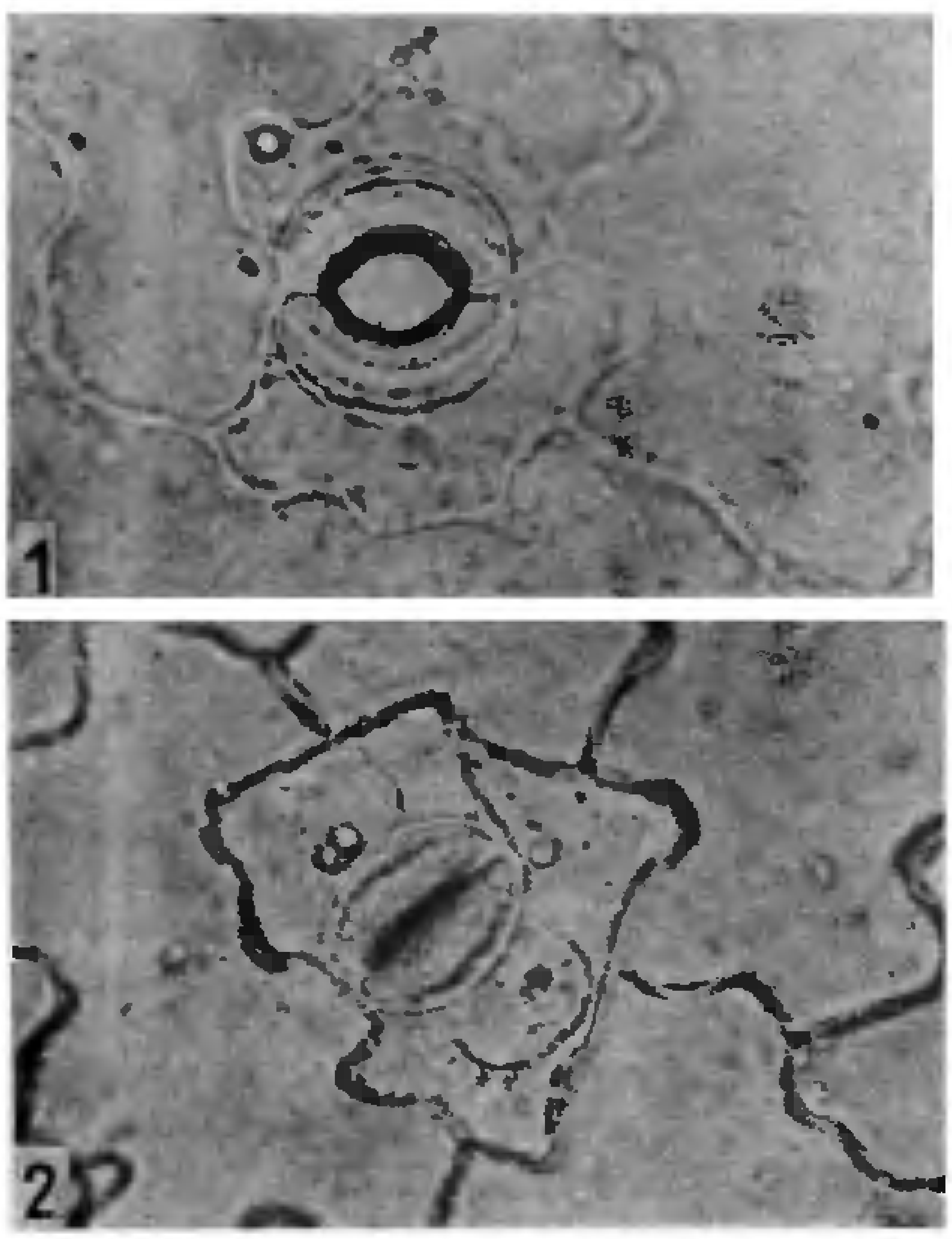
KCl-INDUCED INCIPIENT PLASMOLYSIS AND ITS ROLE IN STOMATAL REGULATION OF *CONVOLVULUS MICROPHYLLUS* SIEB. EX SPRENG.

A LARGE number of theories have been proposed by various workers for stomatal regulation[1-3]. Active uptake of cations like Li, Na, K, Rb by guard cells is stated to be responsible for stomatal opening[4]. The role of starch sugar regulation in the guard cells has been considered to be an important cause of stomatal opening[3], caused by the influx of potassium ions[5-8]. Plasmolysis of the epidermal cells has also been shown to be the cause of stomatal opening[5]. It has been shown that ions are taken up directly from the solution which accumulate in guard cells by the active uptake mechanism in the detached epidermis in respect to certain solution in the medium[2,9]. However, it is generally agreed that stomatal movement is brought about by the changes in the turgor of the guard cells[1], and of the neighbouring epidermal cells[10], and that these changes may be caused by osmotic gradients between guard cells and neighbouring tissue.

During the course of the investigation on water relations of some arid zone plants, interesting cases of stomatal regulation with possible uptake of cations from the incubating media were observed. The same is reported here for isolated epidermal peelings of *Convolvulus microphyllus*.

Epidermal peelings from the leaves of *C. microphyllus* were incubated in different concentrations

(·4 M to ·9 M) of KCl for a period of 1–3 hours and their control in the distilled water after the preliminary trials with 0·1 M to 1·0 M have already been made. After incubation period, the epidermal peelings were stained with neutral red to observe plasmolysis, if any. Stomatal pore width was measured with precalibrated microscope. Stomata were very slightly open initially, but after one hour of incubation period, a maximum opening was observed in peelings incubated in ·5 M KCl (Table I). It was interesting to note that in the above concentration, subsidiary/epidermal cells showed incipient plasmolysis (Fig. 1). In the increasing



FIGS. 1–2. Fig. 1. Epidermal peeling incubated in 0·5 M KCl showing maximum stomatal opening at incipient plasmolysis in *C. microphyllus*, × 850. Fig. 2. Epidermal peeling incubated in 0·9 M KCl with distinctly plasmolysed subsidiary and guard cells showing closed stomata in *C. microphyllus*, × 850.

concentrations, the plasmolysis of the subsidiary/epidermal cells also increased. With the increasing plasmolysis, the stomatal opening got reduced significantly (Table I). In peelings incubated in ·9 M KCl, distinct rounded plasmolysed contents were observed in the subsidiary cells. Guard cells also appeared to be plasmolysed and stomata completely closed down (Fig. 2, Table I).

TABLE I

Effect of an incubation period of 1 hour in different concentrations of KCl on stomatal pore width (in μ) and plasmolysis of subsidiary cells/epidermal cells in isolated epidermal peelings of C. microphyllus

Conc. in molar	Stomatal pore width	Plasmolysis in subsidiary/ epidermal cells
0·0	2·7±0·9	–
0·4	4·5±2·2	–
0·5	11·1±1·2	Incipient
0·6	2·1±2·4	+
0·7	1·6±1·4	+
0·8	0·9±0·7	+
0·9	Close	+

Further work is in progress.

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NEW RECORD OF PARASITIC LARVAE OF *AGAMERMIS DECAUDATA* COBB *ET AL.*, 1923 (NEMATODA: MERMITHIDAE) IN INDIA

DURING the general survey of Plant Parasitic nematode prevailing in the vicinity of Udaipur and its suburbs, authors observed preparasitic larval population of *Agamermis decaudata* Cobb *et al.*, 1923 in a soil sample brought from a citrus orchard. These larvae have been reported parasitic on grass hoppers *Conocephalus brevipenne* and *Melanoplus femuncubrum* in U.S.A.[2]. Since to our knowledge the presence of *Agamermis* sp. has not been previously recorded from India this report forms the basis of first record. Beside this the nematode ranges its geographical distribution to India as well. According to a review article its geographical distribution was confined to U.S.A. only[3]. The dimension and short description is provided and illustrated.