Regarding the significance of corolla handedness the remarks of Schoute[10] are of interest. According to him, "perhaps the *contortion* has *some biological* advantage in promoting an even and undisturbed development of the petals in the bud by the even space filling; perhaps the advantage may be in the easier opening of the bud or some thing like that".

As for the evolutionary significance of the various types of corolla handedness, not much is understood, but this might have evolved under different ecological *conditions to promote autogamy*. Regarding the functional significance of corolla handedness in pollination biology, this phenomenon may be one of the contrivances for *promoting self-pollination* as Fabaceae is mostly autogamous[11]. Frankel and Galun[12] also observed: "Adjustment in structure, position and size of anthers, stigmata and perianth are often associated with the change of the breeding system."

Finally the comments of Schoute[10] are worth mentioning: "The task of investigating the contort corolla as to its secrets at first sight seems to be a rather helpless one, the form in which all margins overlap is not such as to give starting point for any research".

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PORE FORMATION IN CYPERACEAE: A NEW REPORT

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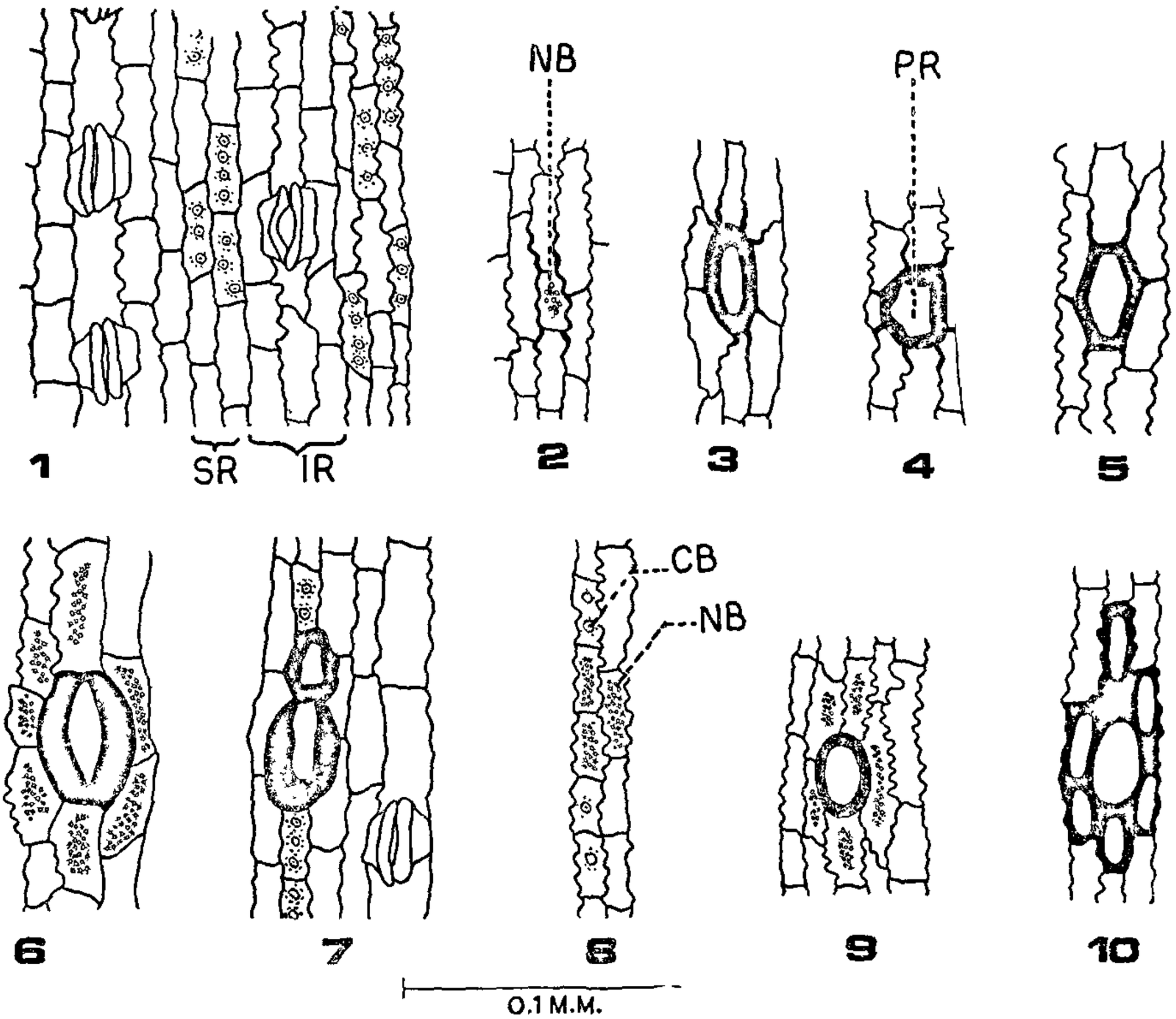
Not only in *Cyperus*, but throughout Cyperaceae the pore formation has not been earlier reported in any member (Mehra and Sharma[1,2] and Metcalfe[3]). While investigating the epidermal features of 22 Indian species of *Cyperus* (Sharma[4]), crater-like pores have been observed, surprisingly quite commonly, in the culm epidermis of *Cyperus flabelliformis* Rottb. syn. *C. alternifolius* Linn. Such pores, however, have neither been observed in the leaf epidermis nor in the epidermal cells of leafy bracts of any of the investigated species (Sharma[4]). The leafy bracts which are positioned at the top of the culm and base of the inflorescence, as well as the vegetative leaf, are hypostomatic in *C. flabelliformis*.

Cyperus flabelliformis is one of the few ornamental species of this wild and economically less important genus. The epidermal cells of the culm are rectangular in shape and arranged in longitudinal files (Fig. 1). Their anticlinal or longitudinally oriented wall is sinuate. The epidermis is divisible into two regions, *i.e.*, the "strand region" which lies over the fibre strands and contains comparatively narrow cells having conical silica bodies, and "interstrand region" having stomata and comparatively larger cells. The average number of epidermal cells per sq.mm is $3280 \pm 132{\cdot}2$ while the stomatal frequency is $358{\cdot}4 \pm 43{\cdot}6$. The stomatal index is 9·8.

Besides the normal conical silica bodies in most of the cells of the strand region (Fig. 1), few cells contain nodular silica bodies (Figs. 2 and 8) with the deposition of silica at their pointed tips. The anticlinal walls of the adjacent epidermal cells at this stage appear conspicuously silicified (Fig. 2). Silica of these nodular bodies is being later on deposited, regularly or irregularly, on the anticlinal as well as periclinal walls (Fig. 3), thus leaving a 'pore' in the centre. These pores appear as craters in the epidermis. They may be oval (Figs. 3, 6 and 9) or pentagonal to hexagonal (Figs. 4 and 5) in shape. Rarely pores are formed in two adjacent cells of the strand region (Fig. 7) besides their neighbouring cells containing normal conical silica bodies. Sometimes many cells of the strand region (Figs. 8 and 9) undergo this process of deposition of silica of their nodular bodies on their anticlinal walls, resulting into a group of pores (Fig. 10).

According to Metcalfe[3] nodular silica bodies, in general, are seldom the only type to be present in an



FIGS. 1–10. *Cyperus flabelliformis*. Fig. 1. Normal epidermal cells of the culm; Figs. 2–10. Different shapes of pore and its development. (CB = Conical silica-body; IR = Interstrand region; NB = Nodular silica-bodies; PR = Pore; SR = Strand region.)

individual species, and these are formed because of the local differences in the density of the silica. The present investigations on *C. flabelliformis* confirm the former observation of Metcalfe because of the presence of nodular bodies along with conical bodies, but his later observation needs some more detailed investigations before making any generalization.

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EFFECT OF ELEVATED TEMPERATURE AND ITS INTERACTION WITH B VITAMINS ON GROWTH AND AMYLASE ACTIVITY OF TOMATO (*LYCOPERSICUM ESCULENTUM* L.) SEEDLINGS

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Most plants, when they are actively growing, cannot survive for long at temperatures in excess of 40° C. Those which can tolerate higher temperatures are termed thermophiles. High temperature may injure a plant indirectly by causing it to dry out. The effect of temperature in producing a biochemical lesion may