Table 1  Inheritance pattern of morphological traits in C. cajan × A. albicans hybrid.

<table>
<thead>
<tr>
<th>Character</th>
<th>C. cajan (♀)</th>
<th>A. albicans (♂)</th>
<th>F_1</th>
<th>Observed No.</th>
<th>Expected ratio</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaflet shape</td>
<td>Lanceolate</td>
<td>Obovate</td>
<td>Intermediate</td>
<td>Lanceolate</td>
<td>39</td>
<td>1:2:1</td>
</tr>
<tr>
<td>Seed strophiole</td>
<td>Absent</td>
<td>Present</td>
<td>Present</td>
<td>Intermediate</td>
<td>90</td>
<td>1:2:1</td>
</tr>
<tr>
<td>Seed mottles</td>
<td>Absent</td>
<td>Present</td>
<td>Present</td>
<td>Obovate</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>Habit</td>
<td>Erect</td>
<td>Twining</td>
<td>Twining</td>
<td>Present</td>
<td>140</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Present</td>
<td>42</td>
<td>13:3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Absent</td>
<td>101</td>
<td>9:7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Twining</td>
<td>81</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Erect</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>32</td>
<td>13:3</td>
</tr>
</tbody>
</table>

and for twining habit indicated inhibitory interaction.
All these four traits showed independent assortment.

26 November 1984


SALT TOLERANT DINANATH GRASS
(PENNISETUM PEDICELLATUM TRINN.)
AS C_4 PLANT—A NEW RECORD

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In recent years, electron microscopy and biochemistry of C_3 and C_4 plants have been extensively studied. Hatch and Slack of Australia reported some dicots, sugarcane and several other members of Graminae and Cyperaceae to be C_4 plants. The most distinguishable anatomical feature of leaf of C_4 plants is the Kranz anatomy i.e., the occurrence of dimorphic chloroplasts. A perusal of literature reveals that little is known about the anatomy and pathway of photosynthetic CO_2 fixation in Dinanath grass—a grass of arid and semi-arid zones. The present study was undertaken to

Figures 1A–C. A. Bundle sheath cell chloroplast from leaf tissue of Dinanath grass showing very few grana (g) and frequent appearance of stroma lamellae (sl). B. Mesophyll cell chloroplast showing well developed several grana (g) and prolamellar bodies (pb). C. Cross section through a mature leaf of Dinanath grass showing well differentiated bundle sheath and mesophyll cell layer.
evaluate the ultrastructure of this salt tolerant Dinanath grass (*Pennisetum pedicellatum* Trin.).

The seeds were sown in earthenware pots containing artificially salinized soil following the method was earlier reported. At maturity few leaves were taken for ultrastructural studies and the usual method for preparation of ultrathin sections was followed. Grey-coloured sections were mounted on uncoated copper grids and examined under Hitachi (Hu-IE) electron microscope at 75 kv after double staining with 1% aqueous uranyl acetate and lead citrate.

Our observations reveal that both bundle sheath and mesophyll cell layers are well differentiated in the mature leaves of Dinanath grass (figure C). The grana (c) are very few in number, while stroma lamellae (st.) appear frequently in the chloroplast of bundle sheath cell (figure A). On the other hand every chloroplast of mesophyll cell shows numerous well developed grana(c) intermingled with prolamellar bodies (p6) (figure B). Thus, the present finding clearly substantiates the previous observations of Laetsch made in sugarcane and other grasses.

The authors are thankful to the Electron Microscopic Section, CDRI, Lucknow for electron microscopy.

4 September 1984


**POLLEN MORPHOLOGY OF STROBLANTHES KUNTHIANUS**

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*Strobilanthes kunthianus* T. Anders (Acanthaceae) is a gregarious shrub with blue flowers found growing wild on open hill-sides at high altitude regions in South India. Like most other species of *Strobilanthes*, this is also a multiennial, flowering at intervals of 7-12 years. The pollen morphology of this species has not been described earlier.

Polleniferous materials of the species were procured from plants growing at the high-ranges of Munnar (Kerala State). Routine acetolysis method and standard terminology were followed. The pollen descriptions are based on 100 grains viewed under light microscope as well as SEM photographs.

The pollen grains are 3-zonoporate with pore diameter 9.4 µ. The average pollen size is

Figures 1 & 2. SEM pictures of the pollen grain of *Strobilanthes kunthianus*. 1. A 3-zonoporate pollen grain at equatorial view (× 3000) 2. Portion of the exine surface showing the striae and lirae (× 6000)