

A perusal of literature reveals that no species of this genus has been described from India so far. This communication besides describing the new genus for India deals with the unusual strain of *A. minima* Coker & Leitner for the first time.

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## EFFECT OF SUNFLOWER MOSAIC VIRUS ON THE ACTIVITY OF RIBULOSE 1,5 BISPHTHOSPHOTASE IN SUNFLOWER

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RIBULOSE 1, 5 bisphosphotase (E. C. 4.1.1.39) is the main carboxylating enzyme in photosynthesis. The activity of this enzyme was assayed following the procedure of Fair *et al*<sup>1</sup>. The leaf segments were fed with NaHC<sup>14</sup>O<sub>3</sub> (radioactivity 0.5 mic obtained from BARC, Bombay) for 10 min. Cotyledonary leaves of sunflower were dusted with 600-mesh carborundum and inoculated by rubbing with a cheese cloth pad dipped into a partially purified suspension of the virus in 0.05 M phosphate buffer pH 7.5. Control plants were treated in the same way with the buffer solution only. Counts per minute were recorded in a Packard Tricarb scintillation spectrometer. Results were expressed as  $\mu\text{mol}$  of HC<sup>14</sup>O<sub>3</sub> fixed per gram fresh weight of leaf per hour.

Table 1 reveals that the activity of ribulose 1,5 bisphosphotase is lowered to the extent of 22.5% to 52.2% in the infected leaves after different days of inoculation of the virus. Ribulose 1,5 bisphosphotase is the main carboxylating enzyme and its activity can account for the total CO<sub>2</sub> incorporation during photosynthesis<sup>2</sup>. The reduced activity of this enzyme has also been reported in *Brassica pekinensis*<sup>3</sup>, sugarbeat<sup>4</sup>, sugarcane<sup>5</sup> and tobacco<sup>6</sup>. This loss in enzyme activity may be associated with the loss of structural integrity of chloroplasts<sup>7</sup>.

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**Table 1** Ribulose 1.5 bisphosphotase activity (RUBP) expressed as  $\mu\text{mol}$  of HC<sup>14</sup>O<sub>3</sub> fixed/hr/g/fresh weight

|             | Days after inoculation |      |      |      |      |
|-------------|------------------------|------|------|------|------|
|             | 15                     | 30   | 45   | 60   | 75   |
| Healthy     | 80                     | 160  | 172  | 190  | 230  |
| Inoculated  | 62                     | 110  | 130  | 95   | 110  |
| % reduction | 22.5                   | 31.3 | 24.4 | 50.0 | 52.2 |

|           | Healthy vs inoculated | Interval | Interaction |
|-----------|-----------------------|----------|-------------|
| 'F' test  | Sig.                  | Sig.     | NS          |
| SEM $\pm$ | 0.026                 | 0.325    | 0.45        |
| CD at 5%  | 0.187                 | 0.115    | 0.159       |

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## STRUCTURE AND HISTOCHEMISTRY OF THE INTERNODE IN *NITELLA FURCATA* SUBSP. *MUCRONATA*

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*NITELLA FURCATA* (Roxb. ex. Bruz.) Agardh subsp. *mucronata* (A. Br.) R. D. Wood, exhibits an equisetoid vegetative organization. Both the main axis and the branchlets possess small, discoid, nodal cells that alternate regularly with large, vacuolate and coenocytic, internodal cells (figure 1). The alga was collected from Badkhal Lake, Faridabad in January 1986. Selected parts of the thallus were fixed in 10% aqueous acrolein<sup>1</sup>. The fixed material was dehydrated in methoxy-ethanol series; infil-