

NEW RECORD OF *BUMILLERIA SICULA* BORZI FROM INDIA

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OUT of the 3 species of *Bumilleria*, *B. klebsiana* Pascher is known so far from India¹. *B. sicula* collected from Kerala and described here is an addition to Indian *Bumilleria* species.

B. sicula Borzi was found growing as a free floating material in the water of a pond and mixed with chlorophycean and bacillariophycean members during the first week of January 1985.

Plants filamentous, unbranched, short, cylindrical, never inflated, 2 wall pieces absent; chromatophores 2-4 brown, parietal plates with a metallic lustre; cells 26.9-37.0 μm long, 10.1-13.4 μm broad, 2-3 times longer than broad (figure 1).

The present plant agrees in general with the description of *B. sicula* Borzi².

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Figure 1. A filament of *Bumilleria sicula* Borzi ($\times 825$)

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1. Khan, M., *Phykos*, 1971, 10, 152.
2. Pascher, A., Schiller, J. and Migula, W., *Heterokontae, Phaeophyta, Rhodophyta, Charophyta*: In: Pascher's Süßwasserflora, Deutschlands, Österreichs und der Schweiz, Heft 11, Verlag Von Gustav Fischer, Jena, 1925, p. 118.

INVOLVEMENT OF *RHIZOCTONIA SOLANI* TOXINS IN PHENYLALANINE AMMONIA LYASE AND TYROSINE AMMONIA LYASE ACTIVITIES OF RICE TISSUES

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THE reactions catalyzed by the phenylalanine ammonia lyase (PAL) and the tyrosine ammonia lyase (TAL) are interlinked with defence mechanism of the host plants in view of their involvement in the aromatic compound metabolism.¹ A critical survey of the literature shows a number of reports regarding increased levels of PAL and TAL activities in many plant tissues^{2,3}. However, reports of increased or decreased activity of PAL and TAL of plant tissues following the treatment of toxins or chemicals are limited.

Rhizoctonia solani Kühn, the causal organism of sheath blight disease of rice, releases several non-enzymatic, low molecular phytotoxic metabolites viz phenyl acetic acid (PAA), meta-hydroxy phenyl acetic acid (*m*-HPAA), ortho-hydroxy phenyl acetic acid (*o*-HPAA) and para-hydroxy phenyl acetic acid (*p*-HPAA) in the culture media⁴. Although, much work has been done on *R. solani* toxins by several workers, it is still in infancy and the factors involved in the defence mechanism of the host during the disease syndrome are not fully understood. The present communication reports for the first time, the changes in PAL and TAL activities of the host tissue following the treatment of some phenolic compounds identified as the phytotoxic metabolites of *R. solani*.

The susceptible rice plants (TKM-9) were maintained with 12hr L/D cycle under green house conditions and were irrigated with tapwater on alternate days. The sheath blight disease of rice is commonly seen even at the nursery stages and could easily be induced on 10-15-day-old rice plants following the