A distinct species of *Sheathia* (Batrachospermaceae, Rhodophyta) from Meghalaya, Northeastern India

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Freshwater algal research in India continues to uncover previously undocumented diversity. A recent field survey spanning multiple locations in Meghalaya reported the presence of freshwater red algal species. A specimen belonging to the genus *Sheathia* (Batrachospermaceae, Rhodophyta) exhibited unique morphological and other features that do not match known species worldwide. Based on detailed comparative analysis, the specimen is described as a new species, *Sheathia meghalayensis* sp. nov. The present article provides a comparative assessment with morphologically similar species within the genus *Sheathia* and a comprehensive account of the recently found taxon, including its morphological characteristics, ecological and environmental parameters, and distributional map. Details regarding its economic potential and provisional International Union for Conservation of Nature (IUCN) conservation status are also discussed.

Keywords: Freshwater macroalgae, India, Meghalaya, Rhodophyta, *Sheathia*.

Historically, the genus *Batrachospermum* sensu. lato., served as an umbrella taxon for many morphologically similar taxa, but molecular phylogenetic studies have revealed its paraphyly, prompting a major taxonomic revision[7,8]. As a result, several former sections of *Batrachospermum* have been elevated to generic rank, including *Sheathia* Salomaki & M. L. Vis, *Kumanoa* Entwisle & al., *Torularia* Bonnemaison, *Visia* Necchi and *Virescentia* (Sirodot) Necchi, D. C. Agostinho & M. L. Vis. These revisions have clarified evolutionary relationships within the order Batrachospermales and provided a more robust framework for species delimitation. In particular, *Sheathia* has emerged as a morphologically diverse and geographically widespread genus, with species exhibiting distinct cortication patterns and reproductive characters that are critical for accurate identification.

In India, studies on freshwater red algae have historically lagged behind marine counterparts, with early records scattered and taxonomic treatments often with limited morphological descriptions. However, recent decades have witnessed a resurgence of interest, driven by the finding of novel taxa and the application of integrative taxonomic approaches[9–19]. These studies have not