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ABSTRACT

Most genera of the freshwater red algal order Batrachospermales have been systematically revised using molecular and morphological data, but *Sirodotia* Kylin remains to be thoroughly reviewed. In this investigation, DNA sequence data for the *rbcL*, COI-5P and LSU markers of specimens collected worldwide were combined with morphological observations to assess their specific diversity, infer their relationships and evaluate the morphological characters relevant for species identification. Phylogenetic analyses showed the genus to be a monophyletic lineage with high support. Inter- and intra-specific divergence values were well-delineated with higher interspecific (2.1-7% and 4.4-10.5%) and lower intraspecific (0-2.4% and 0-3.8%) variations for *rbcL* and COI-5P sequences, respectively. LSU sequences revealed