

Phylogenetic studies of the thermophilic cyanobacterium,
Mastigocladus laminosus, inhabiting the hot springs of Japan and
Myanmar

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Mastigocladus laminosus is a cosmopolitan, thermophilic stigonematalean cyanobacterium. It can be found in hot springs throughout the world. Thirteen strains of *M. laminosus* were collected from the alkaline hot springs of Japan and Myanmar and then isolated as an unialgal conditions. Ten strains were from Japan and three were from Myanmar. These strains were cultured under 40°C 12:12-h L:D, using BG11 medium. The molecular analysis of these strains were based on the heterocyst development regulatory gene (*devH*) sequences was performed in order to understand the relationships of the genetic diversity among them, as well as biogeographical differences between Japanese and Myanmar hot springs. In the phylogenetic result, the studied strains were separated into two lineages as Lineage I and Lineage II and the reference strains were separated lineage from these strains. Lineage I consisted of all, but one, strains collected in Japan, while all of Myanmar strains and the remaining one Japanese strain were included in Lineage II. Therefore, it can be reported that strains from three different locations show as three lineages which did not completely depend on geographical distribution.