

Molecular identification of ‘*Candidatus Phytoplasma cynodontis*’ associated with Bermuda grass white leaf disease in Sri Lanka

M. Dickinson¹ and S. Abeysinghe^{2*}

¹*School of Biosciences, Department of Plant Science, University of Nottingham, UK*

²*Department of Botany, Faculty of Science, University of Ruhuna, Matara*

Bermuda grass, *Cynodon dactylon* (L.), is a grass of the family Poaceae. Bermuda grass white leaf (BGWL) caused by a phytoplasma belonging to the 16SrXIV group, has been reported from many countries including Asia. *C. dactylon* plants were observed in Matara and Monaragala districts showing symptoms similar to Bermuda grass white leaf disease caused by BGWL phytoplasma. Affected grasses are exhibited whitening of leaves, bushy growing habit, small leaves, shortened stolons/rhizomes, stunting, proliferation of auxiliary shoots and death. Plants exhibiting typical BGWL symptoms and apparently healthy (symptomless) plants were collected and DNA was extracted from leaves using CTAB method. DNA was assayed in a nested-PCR with phytoplasma universal rDNA primers P1/P7 and R16R2/R16f2n to amplify the 16SrRNA gene of phytoplasma. DNA extracted from all symptomatic plants produced PCR products of 1250bp and were not produced in DNA from symptomless plants. The phytoplasma 16SrRNA region was sequenced directly with primers and compared by BLAST analysis with those of other phytoplasma sequences in the Gene Bank. The highest sequence homology (99%) obtained was that of ‘*Candidatus Phytoplasma cynodontis*’ belongs to the BGWL 16SrXIV. This is the first molecular identification of ‘*Candidatus Phytoplasma cynodontis*’ (16SrXIV group) associated with Bermuda grass white leaf disease in Sri Lanka.

Keywords: Bermudagrass, Phytoplasmas, Sri Lanka

*saman@bot.ruh.ac.lk