

**'Candidatus Phytoplasma wodyetiae', a new taxon associated with yellow decline disease of foxtail palm (*Wodyetia bifurcata*) in Malaysia**

ABSTRACT

Landscape-grown foxtail palm (*Wodyetia bifurcata* A.K. Irvine) trees displaying symptoms of severe foliar chlorosis, stunting, general decline and mortality reminiscent of coconut yellow decline disease were observed in Bangi, Malaysia, during 2012. DNA samples from foliage tissues of 15 symptomatic palms were analysed by employing a nested PCR assay primed by phytoplasma universal ribosomal RNA operon primer pairs, P1/P7 followed by R16F2n/R2. The assay yielded amplicons of a single band of 1.25 kb from DNA samples of 11 symptomatic palms. Results from cloning and sequence analysis of the PCR-amplified 16S rRNA gene segments revealed that, in three palms, three mutually distinct phytoplasmas comprising strains related to 'Candidatus Phytoplasma asteris' and 'Candidatus Phytoplasma cynodontis', as well as a novel phytoplasma, were present as triple infections. The 16S rRNA gene sequence derived from the novel phytoplasma shared less than 96% nucleotide sequence identity with that of each previously described species of the provisional genus 'Ca. Phytoplasma', justifying its recognition as the reference strain of a new taxon, 'Candidatus Phytoplasma wodyetiae'. Virtual RFLP profiles of the R16F2n/R2 portion of the 16S rRNA gene and the pattern similarity coefficient value (0.74) supported the delineation of 'Ca. Phytoplasma wodyetiae' as the sole representative subgroup A member of a new phytoplasma ribosomal group, 16SrXXXVI.

**Keyword:** Oxtail palm; Yellow decline disease; Phytoplasma; Mixed infection