

## Distribution and diversity of *Fusarium* species associated with grasses in ten states throughout Peninsular Malaysia

### ABSTRACT

*Fusarium* is one of the important genera associated with grasses as saprophytes, endophytes and pathogens. A study was carried out on distribution and diversity of *Fusarium* species associated with two groups of grasses in 10 states throughout Peninsular Malaysia i.e. agricultural grasses (*Oryza sativa* and *Saccharum officinarum*) and non-agricultural grasses (*Axonopus compressus*, *Cenotheca lappacea*, *Chloris barbata*, *Crysopogon aciculatus*, *Cyanadon dactylon*, *Dactyloctenium aegyptium*, *Digitaria ciliaris*, *Echinochloa colona*, *Eleusine indica*, *Eragrostis amabilis*, *Eragrostis malayana*, *Eragrostis uniloides*, *Ischaemum magnum*, *Panicum brevifolium*, *Panicum millaneum*, *Panicum repens*, *Paspalum commersonii*, *Paspalum conjugatum*, *Paspalum orbiculare*, *Pennisetum purpureum*, *Sacciolepis indica*, *Sporobolus diander* and *Sporobolus indicus*). A total of 474 isolates were single-spored and identified by morphological characteristics. *F. semitectum* was frequently isolated (23.6%), followed by *F. sacchari* and *F. fujikuroi* with 15.4% and 14.6%, respectively. The other nine species were *F. solani* (10.3%), *F. proliferatum* (8.9%), *F. oxysporum* (7.4%), *F. subglutinans* (6.5%), *F. equiseti* (5.5%), *F. verticillioides* (3.4%), *F. compactum* (2.5%), *F. chlamydosporum* (1.1%) and *F. longipes* (0.8%). Based on the Shannon-Weiner Index, *F. solani* was the highest ( $H' = 2.62$ ) isolated from grasses. Species of *Fusarium* from *O. sativa* were widely diverse with 11 species, followed by non-agricultural grasses with nine species and *S. officinarum* with only six species.

**Keyword:** *Oryza sativa*; *Saccharum officinarum*; Non-agricultural grass; *Fusarium* species; Diversity; Gramineae