



First report of leaf blight on white spider lily caused by *Neoscytalidium dimidiatum* in Malaysia

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White spider lily (*Hymenocallis littoralis*), locally known as Melong Kecil, is a herbaceous and bulbous perennial plant, commonly planted in Malaysia due to its medicinal and ornamental properties. Symptoms of leaf blight on *H. littoralis* were noticed in early September 2015 in Permatang Pauh, Penang with an incidence of up to 35%. The symptoms appeared as irregular reddish-brown lesion with black pycnidia scattered on the leaf (Fig. 1). When aged, the lesion enlarged and became darker.

Small pieces of the infected leaves were surface sterilised, plated on potato dextrose agar (PDA) and incubated at 25 ±1°C for three days. A pure culture was obtained by single spore isolation. The fungus obtained was initially white with dense and hairy aerial mycelium and gradually turned dark grey to olive green (Fig. 2). Conidia formed in arthric chains, dark brown, ovoid to ellipsoid, round to rod-shaped with 0- to 1-septate conidia (Fig. 3). Abundant black pycnidia formed on carnation leaf agar with aseptate cylindrical conidia produced by conidiogenous cells. The fungus was identified as *Neoscytalidium dimidiatum* based on the description of its pycnidial and mycelial anamorphs (Crous *et al.*, 2006). The identity of the isolated fungus was confirmed by PCR amplification of the internal transcribed spacer (ITS) region using the ITS1/ITS4 primers (White *et al.*, 1990). Based on a BLAST search, the isolate showed 99% identity with an isolate of *N. dimidiatum* (GenBank Accession No. KP132486). DNA sequences were deposited in GenBank (KX290313).

A pathogenicity test was done using the mycelial plug method. A healthy leaf of *H. littoralis* was surface sterilised with 70% ethanol prior to inoculation and four inoculation points were made using a sterile cork borer (6 mm). Fungal mycelial plugs were obtained from a seven-day-old PDA culture and transferred onto three inoculation points, whilst a PDA plug without mycelium was placed on the fourth inoculation point as a control. The test was repeated twice. The inoculated leaves were placed in surface-sterilised trays and incubated at 25 ±1°C with a relative humidity of 85%. Dark brown-reddish lesions appeared five days after inoculation (Fig. 4). As the disease progressed, the presence of black pycnidia was noticed on the lesion surface and the leaves began yellowing ten days after inoculation (Fig. 5). The symptoms produced were similar to those observed in the fields and the control remained symptomless. *Neoscytalidium dimidiatum* isolates were consistently recovered from symptomatic leaves of *H.*

littoralis thus fulfilling Koch's postulates.

This is the first report of *N. dimidiatum* causing leaf blight on white spider lily (*H. littoralis*). Previous studies showed *N. dimidiatum* was responsible for shoot blight, canker and gummosis on *Citrus sinensis* (Polizzi *et al.*, 2009); collar and root rot of *Jatropha curcas* (Marchado *et al.*, 2012); and stem canker on *Hylocereus polyrhizus* (Masratul Hawa *et al.*, 2013). Information on the aetiology of white spider lily leaf blight can improve management practices to prevent serious yield losses.

Acknowledgements

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Figure 1

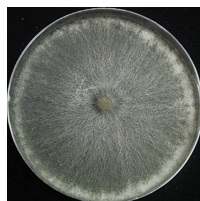


Figure 2

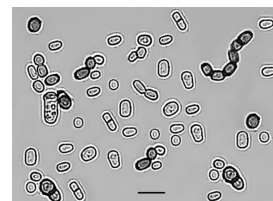


Figure 3



Figure 4

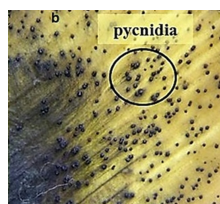


Figure 5

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