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RESEARCH NOTE

White root disease of *Murraya koenigii* from Sri Lanka caused by *Rigidoporus microporus*

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Murraya koenigii is a tropical to sub-tropical small tree belonging to the family Rutaceae distributed from the South and East Asia to Australia (Reisch *et al*., 1994), and is native to India. The leaves are known as curry leaves or 'sweet neem' and are extensively used for culinary purposes. It is an important export commodity in India and in Sri Lanka. Other plant parts are widely used for medicinal (Jain *et al*., 2012) and culinary purposes.

Two patches of plants showing symptoms of white root disease were observed in the vicinity of rubber plantations in the Kalutara District, Western Province (6^0 30′ 23.8″ N, 80^o 10′ 09.2″ E and 6^0 30′ 41.1″ N, 80^o 07′14.7″ E) of Sri Lanka. The initial symptom was the development of a slight off-green colour of the leaves. Later, the leaves turned yellowish brown showing an abnormal inward curling of the leaves, which is commonly called buckling. In advanced stages, the leaves were shed, resulting in a die-back of the affected branches. Profusely branched whitish rhizomorphs were visible on the roots. The rhizomorphs were firmly attached to the surface of the roots and with time turned pale yellow. In advanced stages of the disease, the rhizomorphs were seen at the collar region of the plant. Rotting of the wood was also evident resulting in a die-back of the twigs. Later, characteristic bright coloured bracket like fruit bodies appeared.

Isolations were made on malt extract agar (MEA) from symptomatic *M. koenigii* roots after surface sterilisation in 0.01 % $HgCl_2$ for 2 min. Pure cultures were obtained from hyphal tip isolations executed through microscopic observations. The cultures were maintained on MEA at room temperature (RT, 28 ± 2 ºC). The colonies grown on MEA were flat and the lower surface showed an off-white colour. The upper surface was pure white in colour. The fungus was identified in the Rubber Research Institute of Sri Lanka (RRISL) laboratory as *Rigidoporus microporus*, which is the causative fungus of the white root disease of *Hevea brasiliensis* (Jayasinghe & Wettasinghe, 1996; Kaewchai *et al*., 2010).

Pathogenicity tests were performed using five-months old healthy *M. koenigii* saplings grown in pots in a greenhouse at the Dartonfield Estate of the RRISL. To prepare the artificial inocula, fresh root pieces of *M. koenigii* (8 cm long) were washed thoroughly under running tap water to remove soil particles adhering to the surface. The root pieces were soaked in distilled water for 1 hr and autoclaved for 45 min at 121 ºC in 500 mL glass beakers covered with tin foil. *Rigidoporus* spp. isolated from *M. koenigii* grown on MEA was used for inoculation. Three agar blocks (4 cm^2) from the advancing margin of the above cultures were transferred aseptically on to the surface of the autoclaved root pieces in the beakers and incubated for 6 weeks at RT (28 ± 2 ºC). Four-months old *M. koenigii* saplings raised under greenhouse conditions at the RRISL were artificially inoculated (Fernando *et al*., 2012) using the inocula prepared as described previously. After four months of incubation, symptoms were noted (well grown rhizomorphs on the roots and a partial rot at the collar region) and the symptoms were similar to that was observed earlier. The fungus was re-isolated on to MEA from the roots of the artificially inoculated seedlings. The cultural characteristics of the

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re-isolated fungus was similar to the original isolate. To our knowledge, this is the first published report of *R. microporus* infecting *M. koenigii* in Sri Lanka and elsewhere.

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