

云南澳洲坚果苗木感染番茄斑萎病毒属病毒初报

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Preliminary Report of *Tospovirus* Infecting Macadamia Seedling in Yunnan, China

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摘要 在云南省临沧市永德县海拔约800 m 的澳洲坚果 (*Macadamia* sp.) 种苗繁育基地发现叶片褪绿、黄化、叶脉间呈现近似圆形或不规则褐色枯斑的植株。为了确认植株病因, 采集典型病株, 应用电子显微镜负染色法、超薄切片和DAS-ELISA 进行检测, 在澳洲坚果苗木病叶分离物Maca-LC 的粗汁液和病叶超薄切片中均观察到有类似番茄斑萎病毒属 (*Tospovirus*) 病毒颗粒。该病毒粒子为球形, 直径80 ~ 85 nm。进一步应用DAS-ELISA 方法鉴定, 病叶与 *Tospovirus* 的西瓜银色斑驳病毒 (*Watermelon silver mottle virus*, WSMoV) /花生芽坏死病毒 (*Groundnut bud necrosis virus*, GBNV) 复合抗血清呈阳性反应。通过病症典型症状、病毒形态学观察及血清学方法检测表明, 侵染云南澳洲坚果种苗的病毒分离物 Maca-LC 为番茄斑萎病毒属 *Tospovirus* 病毒。

关键词: 澳洲坚果 番茄斑萎病毒属 超薄切片 DAS-ELISA

Abstract: Infected plant seedlings of macadamia showing concentric chlorotic ring spot or brown lethal spot symptoms were found in a nursing base located at the altitude of about 800 meters in Lincang, Yunnan, China. In order to confirm the presence of virus, typically infected leaves of *Macadamia* sp. were detected by using electron microscopy and DAS-ELISA. Virions with a diameter of about 80 - 85 nm, similar in size to the *Tospovirus* particles, were both observed in the sap and ultrathin sections of diseased leaves of macadamia. The crude extracts of infected leaves had a positive reaction to the complex antibody of *Watermelon silver mottle virus* (WSMoV) / *Groundnut bud necrosis virus* (GBNV). These results above indicated that macadamia was infected by a *Tospovirus*. It is the first report of *Tospovirus* infecting macadamia.

Keywords: *macadamia*, *Tospovirus*, ultrathin section, DAS-ELISA

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