



First report of a rust disease of plumeria caused by *Coleosporium plumeriae* in Southern China and Vietnam

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Plumeria species are distributed in tropical and subtropical regions and are commonly planted as ornamental trees in parks and gardens because of their beautiful, fragrant and colourful flowers. A rust disease of *Plumeria* spp. was found in Southern China (Yunnan Province in 2003; Hainan Island in 2006) and in Vietnam in 2010. Orange to yellow uredinial sori appeared on the lower leaf surface and then spread to the whole leaf (Fig. 1). The leaf infection resulted in early abscission and many branches without leaves were frequently observed in affected trees that finally died (Fig. 2). Specimens were collected and morphological observations carried out with light and electron microscopy to identify the causal rust fungus. Uredinia were hypophyllous and produced under the epidermis (Fig. 3). Urediniospores were catenulate, globose, ovoid or ellipsoid, sometimes angular in shape, and 20.0–42.0 × 14.1–25.6 μm in size (Fig. 4). Their walls were verrucose and 1.3–3.2 μm thick. These morphological characteristics agree with those of *Coleosporium plumeriae* Pat. except telia were not found in the specimens (Traquair & Kokko, 1980). These specimens were deposited in the Mycological Herbarium, University of Tsukuba, Japan (TSH-R4308, Yunnan, China, 2003; TSH-R4323, Hainan Island, China, 2006; TSH-R4324, Hainan Is., China, 2010; TSH-R4325, Cuc Phoong National Park, Vietnam, 2010).

This rust fungus was originally reported in Santo Domingo, West Indies, more than 150 years ago and its distribution was limited to tropical and subtropical areas of America (mostly Central America) until the 1980s (To-anun et al., 2004). Recently, this rust fungus has rapidly spread to Pacific Islands (Hawaii, Western Samoa, Tahiti, Cook Islands, Fiji, New Caledonia, etc.), Australia, Asia (India, Indonesia, Thailand, Malaysia, Philippines, Taiwan, Japan) (To-anun et al., 2004; Chung et al., 2006; Baiswar et al., 2008; Holcomb & Aime, 2010), and Africa (Nigeria) (Hernandes et al., 2005). However, this is the first report of this rust fungus from China and Vietnam. This rust fungus causes severe damage to

many cultivars and spoils the beauty of scenery in many places. Therefore, control and management of this rust fungus is very important.

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Figure 1



Figure 2

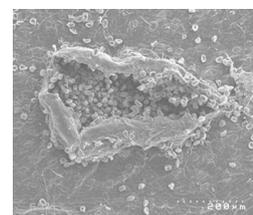


Figure 3



Figure 4

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