

Puccinia Rust of Citronella and Lemongrass in Sri Lanka

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ABSTRACT

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A leaf rust caused by *Puccinia nakanishikii* in *Cymbopogon citratus* and *C. nardus* was observed in the hill country areas of Sri Lanka. This is the first report of the disease and the causal organism from Sri Lanka.

Citronella, *Cymbopogon nardus* (L.) Rendle and *C. winterianus* Jowitt, and lemongrass, *C. citratus* (DC.) Stapf and *C. flexuosus* (Nees ex Steud.) Wats., are extensively cultivated in Sri Lanka for oils used in the perfumery and food industries. Lemongrass is also used as a condiment in cooking (3).

Citronella is grown commercially in the undulating lands of the southern part of Sri Lanka (2,000–2,500 mm annual rainfall; temperature range, 26.5–28 C [2]). *C. citratus* and *C. nardus* are cultivated successfully in other parts of the island because of their hardiness and adaptability to poor soil conditions (4).

Citronella and lemongrass in the Kandy and Kegalle areas (2,500 mm annual rainfall; temperature range, 22–25 C [2]) were found to be heavily diseased with a foliar rust caused by *Puccinia*

nakanishikii Diet. during September 1979 (northeast monsoon season) and March 1980. The disease is of substantial economic importance, because leaves are the major harvestable product for the extraction of essential oils.

The pathogen appeared as golden brown pustules on the leaf laminae and occasionally on leaf sheaths. Lesions were circular to elongate, sparsely scattered, and usually 1–10 mm but occasionally up to 30 mm long; they were seldom more than 1–3 mm wide. Lesions rapidly became pustular in appearance from the rupture of the epidermis to release dense masses of golden brown spores. Pustules were generally confined to the lower surface. Coalescence of chlorotic lesions into large areas resulted in premature death of even young leaves.

P. nakanishikii was observed in plots of *C. citratus* and *C. nardus* in valley areas. *C. nardus* is the major wild cover of many hills and mountains and abandoned

tea estates in the hill country. Windblown uredospores that survive on volunteer *C. nardus* undoubtedly serve as primary inoculum.

Although this is the first report from Sri Lanka, *P. nakanishikii* is known to cause rust on *Cymbopogon* spp. in India, Malaysia, and New Guinea (1). Vasudeva (5) showed that the fungus caused leaf rust in *Andropogon nardus*, *A. laniger*, and *C. coloratus* in India. Cummins (1) reported that *A. kwashotensis*, *Bothriochloa intermedia*, *Capillipedium parviflorum*, *Sorghum nitidum*, and *Cymbopogon* spp. are hosts of *P. nakanishikii*.

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