The Beet Cyst Nematode *Heterodera schachtii* in Tropical Africa

J. BRIDGE, U.K. Overseas Development Administration Plant Nematologist, Imperial College of London University, Silwood Park, Ascot, Berkshire, England, and P. D. MANSER, FAO Crop Protection Specialist, Crop Protection Service, Yundum, The Gambia

ABSTRACT

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The beet cyst nematode *Heterodera schachtii* on *Beta vulgaris* subsp. *vulgaris* is reported from The Gambia, West Africa.

A plant disease and nematode survey of dry-season vegetable crops in The Gambia, West Africa, during February and March 1978 (J. Bridge and J. Waller, *unpublished*) revealed a number of important plant-parasitic nematodes, including the beet cyst nematode, *Heterodera schachtii* Schm. Large numbers of white cysts of *H. schachtii* were found on the roots of *Beta vulgaris* subsp. *vulgaris* in one of the oldest vegetable gardens in Banjul. Second-stage juveniles were 375-454 μm long with stylets of 23.5–26.0 μm. Morphological characters of juveniles and cysts were similar to those described by Franklin (2).

Present address of first author: Nematology Department, Rothamsted Experimental Station, Harpenden, Hertfordshire, England.

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The nematodes were associated with stunting and chlorosis of the plants. The large numbers in soil and on roots indicated that *H. schachtii* thrived in the hot conditions. Maximum soil temperatures at 10 cm in the Banjul area vary from 32.0 to 42.6 C during the vegetable growing season.

H. schachtii is a major pest in the cool and warm temperate regions of Europe, the USSR, North America, Australia, and parts of the Middle East (2); it has also been recorded in the warm temperate areas of South Africa (1) and Algeria (4). In California, encysted eggs of *H. schachtii* can survive temperatures above 41 C during fallow, but no nematode development occurs at or above 32.5 C (5).

This is the second record of *H. schachtii* in the tropics. It was discovered in tropical Africa in Dakar, Senegal (3) in a small vegetable garden. The presence of *H. schachtii* in The Gambia shows that the previous finding in Senegal was not a unique occurrence and that the nematode's spread on susceptible crops in the tropics is a real possibility. Our observations support the suggestion that *H. schachtii* has become adapted to the hot climate in West Africa (3). Because of the proximity of Dakar to Banjul, the two findings may be connected, but it is as likely that the nematode has been imported independently into the two countries, possibly on infested beets.

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