

First report of web blotch of peanut caused by *Phoma arachidicola* in the dry zone of Sri Lanka

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Abstract

Foliar symptoms of web blotch were observed on some peanut cultivars (*Arachis hypogaea* L.) grown in the Kilinochchi district in the dry zone of Sri Lanka during October 1993 to January 1994, following heavy rains (mean relative humidity 79 to 85%, mean temperature 25 to 27°C). Severe symptoms appeared on peanut cultivars ICGS 11 and ICGS 121. Cultivar ICGS 11 belongs to the Spanish group (*A. hypogaea* subsp. *fastigiata* var. *vulgaris*) and ICGS 121 belongs to bunch type (*A. hypogaea* subsp. *hypogaea* var. *hypogaea*). Initial symptoms of small, irregular, brown to reddish brown lesions along the midrib of both young and old leaves were observed. Large, nearly circular tan or dark brown blotches appeared on the adaxial surface of the leaves. Older lesions became dried and cracked. Lesions on the abaxial surface were pale brown, and less pronounced. These observations correlate closely with those made by Taber (2). Severe defoliation was observed in the infected fields of Spanish cultivars. *Phoma arachidicola* Marasus, G. D. Pauer, & Boerema was consistently isolated from symptomatic tissue. Colonies on potato dextrose agar were at first creamy white, and flattened with little aerial growth. Colonies eventually turned dark brown with a wide appressed margin. All isolates produced pale to dark brown and globose pycnidia. Dark-colored, globose, beaked pseudothecia were also observed in cultures, as reported by Subrahmanyam et al. (1). Dark-colored, round, single-celled pycnidiospores measuring 4 to 9 × 2.5 to 4 µm were observed in culture. The fungus was inoculated onto the leaves of 10 healthy plants of each cultivar and another 10 plants were maintained as uninoculated controls. All plants were covered with polypropylene bags to increase the humidity. Plants inoculated with the fungus produced symptoms 7 to 9 days after inoculation similar to those observed in the field. None of the control plants showed any disease symptoms. The fungus was reisolated from the diseased leaf tissue. Microscopic examination confirmed the identity of the fungus and satisfied Koch's postulates. All cultivars were then grown under irrigation during February to May 1994 (mean relative humidity 60 to 70% and mean temperature 32 to 35°C). No disease symptoms were observed, indicating that the proliferation of *P. arachidicola* on Spanish cultivars was influenced when the crop establishment period coincided with low air temperature (25 to 27°C) and high relative humidity (79 to 85%). This is the first report of web blotch in Sri Lanka and its occurrence was confined to the dry zone areas of the country.

Indexed keywords

Species Index: *Arachis hypogaea*; Fungi; *Phoma*; *Solanum tuberosum*