Occurrence of *Pyrenophora tritici-repentis* in the Andean Countries of South America

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ABSTRACT

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Pyrenophora tritici-repentis, the cause of tan spot of wheat, is reported for the first time in Colombia, Ecuador, and Peru.

In recent years, tan spot, caused by *Pyrenophora tritici-repentis* (Died.) Drechs. (anamorph = *Drechslera tritici-repentis* (Died.) Shoem.), syn. *Helminthosporium tritici-repentis* (Died.), has become an important foliar pathogen in wheat. Although it has been reported from many areas of the world, it has never been reported from the Andean countries of South America (2).

This paper identifies *P. tritici-repentis* as causing foliar blights of bread wheats in southern Colombia, northern Ecuador, and Cuzco, Peru. The teleomorph is reported for the first time from Ecuador.

During 1981–1982, Colombia, Ecuador, and Peru had abnormally high precipitation during the wheat-growing season. In Nariño, Colombia, plants in wheat-breeding nurseries had numerous leaf blight symptoms, as did plants in the breeding nurseries in Quito, Ecuador. Although in some cases, microscopic observation indicated the presence of *Septoria tritici* Rob. ex Desm., *S. nodorum* (Berk.) Berk., and *S. avenae* Frank f. sp. *triticea* Johns., symptoms typically caused by *P. tritici-repentis* predominated. Tan spot occurred alone and mixed with the Septoria lesions on the leaves.

Collections were made in 1981–1982 of bread-wheat leaves showing what appeared to be tan spot lesions from the following localities: Samacá, Colombia (commercial fields); Pasto, Colombia (breeding nurseries); Quito, Ecuador (breeding nurseries); Cayambe, Ecuador (commercial fields); and Cuzco, Peru (breeding nurseries). Leaf samples were placed in moist chambers for 1–3 days at room temperature, then inspected microscopically for *P. tritici-repentis*. Typical conidia of the organism were produced with the following salient characters: subhyaline, straight cylindrical, 4–9 septate, 80–200 × 13.2 μm, and basal cell conical in the form of a "snake's head" (1).

In December 1981, bread-wheat stubble in breeding nurseries at Quito, Ecuador, was examined for the presence of the teleomorph of *P. tritici-repentis*, and pseudothecia were discovered as follows: beaked with sterile setae, sometimes with conidia produced on the upper part of pseudothecia; asci bitunicate, clavate, 150–600 × 43–50 μm; phaeodictyospores, with three transverse septa, often with one or two longitudinal septa, 40–65 × 15–25 μm; and no pseudoparaphyses observed. The description concurs with that in the literature for *P. tritici-repentis* (1). Collections have been deposited at the Commonwealth Mycological Institute (Herb. IMI. 267416).

My observations indicate that this organism alone or in combination with other foliar pathogens appears to be damaging to wheat in the Andes, especially in years with abundant rainfall. *P. tritici-repentis* is commonly confused with Septoria diseases by wheat breeders and pathologists in the field. This confusion occurs even though no Septoria pycnidia are observed, and it is one reason why tan spot has never been identified in this area. Higher levels of resistance are needed for control of tan spot, and efforts toward this end are being made in different countries (2).

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