

Sugarcane Rust and Other New Rust Diseases from El Salvador

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ABSTRACT

McCain, J. W., and J. F. Hennen. 1980. Sugarcane rust and other new rust diseases from El Salvador. *Plant Disease* 64:1120.

Sugarcane rust, caused by *Puccinia melanocephala*, was seen for the first time in El Salvador in 1979. Eight other rust fungus diseases are reported for El Salvador for the first time.

Sugarcane rust, caused by *Puccinia melanocephala* H. & P. Sydow in Sydow and Butler (synonym *P. erianthi* Padw. and Khan), has been reported recently in Jamaica, Puerto Rico, the Dominican Republic, Florida, and Louisiana (4). Rust on sugarcane has been reported in other countries in the Western Hemisphere, but the causal species has not been positively identified (3,4).

We now confirm that *P. melanocephala* is present in El Salvador. Rust was collected at Aguilares, E.S., 4 July 1979, on leaves of sugarcane cultivar B 4362. Uredinia and telia were present on the abaxial surfaces of the leaves. Sori were examined in free-hand sections mounted in lactophenol.

The urediniospores are echinulate, 28–37 × 20–27 μm, have four or five equatorial germination pores, and are cinnamon brown. No urediniospores with spore walls thickened apically were seen. The uredinial paraphyses are colorless, capitate or clavate-capitate, with walls 1–3 μm thick in the stipe and 3–8 μm thick at the apex. Teliospores are chestnut brown, smooth, 33–42 × 17–23 μm, with walls 1–2 μm thick (2–6 μm at the spore apex). The teliospore pedicels are 10–15 μm long.

A specimen was deposited in the Arthur Herbarium, Purdue University (accession number PUR 65789). The specimen was collected by George

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Another rust fungus, *Puccinia kuehnii* Butler, was reported on sugarcane in Africa and Asia (2) and recently in Latin America (5). The latter report did not describe the rust fungus or report that voucher specimens had been kept. Without such evidence, we cannot verify the report. *P. kuehnii* has paraphyses and teliospores without apically thickened cell walls, but its urediniospore walls are 5 μm thick at the apex. Only uredinia and telia are known for either species of rust (2).

During a visit to El Salvador in May 1977, we found several other rust fungus diseases for the first time, based on the only published lists of Salvadorean diseases (1,6). Our findings include:

1) Turnera rust (*Aecidium turnerae* P. Henn.) on *Turnera ulmifolia* L. (Turneraceae), Ruinas de Sihuatán, north of Aguilares, 18 May 1977, PUR 65822.

2) Pine cone rust (*Cronartium conigenum* Hedgc. & Hunt) on *Pinus pseudostrubus* Lindl. (Pinaceae), PUR 65627, and uredinia on *Quercus* sp. (Fagaceae), PUR 65823, Puente el Gramal, 82.5 km north of San Salvador, Dept. de Chalatenango, 18 May 1977. The infected pine cones, which may be completely destroyed by the rust aecia, are bright orange and visible from hundreds of yards away.

3) Yellow fern rust (*Desmella aneimiae* H. and P. Sydow, synonym *D. superficialis*

Kern in Stevenson) uredinia on *Tectaria incisa* Car. (Polypodiaceae), Turicentro de Los Chorros, 10 km west of Santa Tecla, Dept. de La Libertad, 24 May 1977, PUR 65641.

4) Aliso rust (*Melampsorium hiratsukanum* S. Ito) uredinia on *Alnus arguta* (Schlecht.) Spach. (Betulaceae), Volcan de Santa Ana, Dept. de Santa Ana, 25 May 1977, PUR 65825.

5) Oregano rust (*Puccinia lantanae* Farl.) on *Lippia berlandieri* Schauer (Verbenaceae), San Andres Experiment Station, 25 km west of Santa Tecla, Dept. de La Libertad, 20 May 1977, PUR 65826.

6) Canna rust (*Puccinia thaliae* Dietel) uredinia and telia on *Canna* sp., (Cannaceae), Bureau of Natural Resources, M.A.G., San Salvador, 28 May 1977, PUR 65828.

7) Cuapinol rust (*Uredo hymenaeae* Mayor) on *Hymenaea coubaril* L. (Leguminosae), near Cojutepeque, Dept. de Cuscatlán, 19 May 1977, PUR 65830.

8) Mud-plantain rust (*Uromyces heterantherae* P. and H. Sydow) uredinia on *Heteranthera reniformis* Ruiz and Pavón (Pontederiaceae), Puente La Palma, about 90 km north of San Salvador, Dept. de Chalatenango, 18 May 1977, PUR 65829.

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Journal paper 8108 of the Purdue Agricultural Experiment Station.

0191-2917/80/12112001/\$03.00/0

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