

Records of South Texas Rust Fungi¹

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This paper reports 18 species collected during March and April 1962 in the area south of a line from Del Rio to Corpus Christi. Two of the species are new to the United States, five are new to Texas, many of the parasitized plants are new hosts for the fungi involved, and life cycles are suggested for three species. All specimens are in the Arthur Herbarium of Purdue University and duplicates are deposited in the National Fungus Collections, Plant Industry Station, Beltsville, Maryland.

PHYSOPELLA CAMELIAE (Mayor) Cummn. & Ramachar.

On *Panicum anceps* Michx., at the reservoir, Farm Road 88 north of Elsa, 26 Mar. (62-176); levee near Missouri-Pacific Station, Brownsville, 21 Apr. (62-259). On *Panicum firmulum* Hitchc. & Chase, US 77, 4 miles north of Raymondville, 20 Apr. (62-252).

These are the first records of this fungus parasitizing species of *Panicum*. It has been previously recorded on *Setaria macrostachya* H. B. K. and *S. scheelei* (Steud.) Hitchc. in Texas and is common in the lower Rio Grande Valley.

PUCCINIA ARISTIDAE Tracy.

On *Tridens elongatus* (Buckl.) Nash, US 90, eight miles east of Del Rio, 1 May (62-301).

This is a new host for the species.

PUCCINIA CACABATA Arth. & Holw.

On *Chloris ciliata* Swartz, Farm Road 1792, 16 miles east of Brownsville, 19 Mar. (62-147); Tex. 4, 18 miles east of Brownsville, 22 Mar. (62-158); Farm Road 1419, 8 miles southeast of Brownsville, 23 Mar. (62-168); Bentsen State Park near Mission, 28 Mar. (62-181).

The fungus has not been reported for the U.S. on *C. ciliata*, the host of the type. In the U.S. it is commoner on species of *Bouteloua*.

PUCCINIA CANALICULATA (Schw.) Lagh.

On *Cyperus esculentus* L., US 77, 26 miles south of Riviera, 6 Apr. (62-205). On *Senecio ampullaceus* Hook., same site (62-206).

The two plants were intergrown and the fresh uredia and telia on the *Cyperus* unquestionably resulted from aeciospores from the old aecia on the *Senecio*. A similar aecial stage occurred along US 77 five miles north of Raymondville on *Rudbeckia serotina* Nutt. (62-254) and on *Helianthus (annuus L.?)* seedlings (62-256); and 13 miles north on *R. serotina* (62-256) associated with old telia on *Cyperus* sp. Aecia have been reported previously on *Ambrosia*, *Heliopsis*, and *Xanthium*.

PUCCINIA CHLORIDIS Speg.

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On *Trichloris pluriflora* Fourn., US 281, 4 miles north of Linn, 4 Apr. (62-190); Tex. 359, 5 miles north of Alice, 5 Apr. (62-195); County Park, Loyola Beach, 6 Apr. (62-202).

This fungus has not been reported previously in the U.S. on species of *Trichloris* but it was also found in October 1961 in the Big Bend.

PUCCINIA CIRCUMDATA Mains.

On *Panicum fasciculatum* Swartz.?, Bentsen State Park near Mission, 28 Mar. (62-180).

New collections will be necessary to verify the host but the grass is an annual and the remnants of the inflorescence indicate *P. fasciculatum*. The fungus was known previously from Cuba, southern Mexico, Panama, and Puerto Rico.

PUCCINIA DIETELII Sacc. & Syd.

On *Chloris andropogonoides* Fourn., Farm Road 1792, 16 miles east of Brownsville, 19 Apr. (62-250).

This is a new host for *P. dietelii*.

PUCCINIA ELEOCHARIDIS Arth.

On *Eupatorium serotinum* Michx., Devils River at US 90 bridge, northwest of Del Rio, 26 Apr. (62-272).

Aecia have not been recorded previously from Texas.

PUCCINIA HETEROSPORA Berk. & Curt.

On *Sida filicaulis* Torrey & Gray, near US 281, 9 miles north of Linn, 4 Apr. (62-192).

PUCCINIA IRREQUISITA Jacks.

On *Centaurea americana* Nutt. Along US 277, 10 miles east of Del Rio, 27 Apr. (62-281). Previously known from two collections made in 1901.

PUCCINIA MIRIFICA Diet. & Holw.

On *Borrhichia frutescens* (L.) DC. Farm Road 1792, 22 miles east of Brownsville, 20 Mar. (62-155).

This species supposedly lacked uredia but they occur as localized infections in this material. The spores are like the uredinoid aeci-spores produced on the systemic infections.

PUCCINIA PHYLLOSTACHYDIS Kus.

On *Phyllostachys (aurea Riv.?)*, Brackenridge Park, San Antonio, 24 Apr. (62-261).

In the U.S. the species was previously known from Florida, Georgia, and South Carolina.

PUCCINIA POSADENSIS Sacc. & Trott.

On *Andropogon* sp., Dunes near Coast Guard Station, south end of Padre Island, 18 Apr. (62-245).

The only other U.S. records are from Florida and South Carolina.

PUCCINIA SUBSTRIATA Ell. & Barth.

On *Paspalum pubiflorum* Rupr., Devils River at US 90 bridge northwest of Del Rio, Apr. 26 (62-276); stream about 12 miles south of Del Rio on US 277, 27 Apr. (62-282).

This is a new host for the species.

PUCCINIA TUMIDIPES Pk.

On *Lyceium carolinianum* Walt., Farm Road 1792, 16 miles east of Brownsville, 19 Apr. (62-248); Brownsville, 6 June 1945 (D. J. Smith).

This plant has not been recorded as a host in the U.S.

PUCCINIA VERSICOLOR Diet. & Holw.

On *Heteropogon contortus* (L.) Beauv., roadside park off of US 90 at the Pecos River, west of Comstock, 28 Apr. (62-287).

The species was collected in the Big Bend in October 1961 but is not known to occur elsewhere in the U.S.

UROMYCES AMERICANUS Speg.

On *Hydrocotyle umbellata* L., Devils River at US 90, 26, 30 Apr. (62-271; 62-297). On *Scirpus americanus* Pers., same site, 26 Apr. 1962 (62-274).

The intimate association of the aecia on *Hydrocotyle* and telia with germinated spores on *Scirpus* was convincing evidence that they are related. Jackson (notes in the Arthur Herbarium) observed a similar association in 1907 in Delaware but the rust was then confused with *U. lineolatus* (Desm.) Schroet. (*U. scirpi* Burr.) In California, Parks noted (on label of No. 173, California Fungi distributed by the Herbarium of the University of California) a similar association between the telial stage on *Scirpus californicus* (Mey.) Britt. and aecia on *Oenanthe californica* S. Wats. The aecia on *Hydrocotyle* from Texas were compared with *Accidium hydrocotylinum* Speg. by Dr. Lindquist, Instituto de Botanico "Spegazzini," and considered to be conspecific. He further stated (*in litt.*) that, in unpublished work, he had established the connection between the two stages.

UROMYCES GRAMINICOLA Burr.

On *Panicum virgatum* L., sandhill area along US 77 about 16 miles south of Riviera, 6 Apr. (62-204).

This common species appears to be a new record for Texas.