

AMPHISPORES OF THE GRASS AND SEDGE RUSTS.

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(Abstract.)

The paper described and illustrated the uredospores and amphispores of five species of *Puccinia* from central United States, and one species of *Uromyces* from Northern India, all occurring upon various kinds of grasses; they were *P. verrans* Farl., *P. Tripsaci* D. & H., *P. Stipae* Arth., *P. tosta* Arth., *P. Cryptandri* E. & B., and *U. Rottboelliae* Arth. It also described and illustrated the amphispores, the uredospores not being known, of three species of *Puccinia* from the United States occurring upon different species of *Carex*; they were *P. Caricis-strictae* Diet., *P. atrofusca* (D. & T.) Holw., and *P. Garrettii* Arth. These are all the species of rusts so far known to possess amphispores. This kind of spore is the resting or winter form of the uredospore. They are not uredospores, however, accurately speaking, because they show distinct structural differences, often very great, and are correspondingly modified physiologically.