



1, telia on underside of leaf of *Silphium perfoliatum*, $\times 3$; 2, telia on stem, $\times 3$; 3, teliospores. (All from DAOM 155521).

Puccinia silphii Schw., Trans. Amer. Phil. Soc. 2: 296. 1832.

\equiv *Micropuccinia silphii* (Schw.) Arthur & Jackson in Arthur, Bull. Torrey Bot. Club 48: 41. 1921.

Pycnia, aecia and uredinia lacking. TELIA black-brown, pulvinate, in small compact circular to elongated groups on stems, and on petioles, veins and blades of leaves, mostly hypophyllous, often causing convex distortions of leaf tissue. TELIOSPORES ellipsoid, ends usually tapered, constricted at septum, $28-57 \times 8-17.5\mu$; wall pale yellow-brown, smooth, $0.7-1.6\mu$ thick at side, $3.2-12.8\mu$ at concolorous apex; pores, 1 apical in upper cell and 1 septal in lower cell; pedicel subhyaline to pale yellow-brown, persistent, $15-65\mu$ long.

HOST: *Silphium perfoliatum* L. (Compositae, Heliantheae).

DISTRIBUTION: Ont.

COLLECTION: On *Silphium perfoliatum*: Ont.: Thamesville, Kent Co., 15 Aug. 1892, DAOM 155521 (= Dearn. 1978).

NOTES: The Canadian record is based on a single collection from southwestern Ontario. In North America, the distribution of the rust extends west through Wisconsin to North Dakota and south to Alabama and central Texas.

First-formed telia in collections from U.S. are pale brown and germinate immediately. Telia which form on mature or senescent tissue are dark, as described, with thicker teliospore walls that ensure successful overwintering.

There are 2 species of *Silphium* (*S. perfoliatum* and *S. terebinthinaceum* Jacq.) in Canada, both recorded only in southwestern Ontario, but only the former with rust. In North America, both species, in fact 10 species in all, support this rust (Parmelee, J.A. The autoecious species of *Puccinia* on Heliantheae in North America. Can. J. Bot. 45: 2314. 1967). *S. perfoliatum* is an aecial host for the heteroecious *Uromyces silphii* Arth. which alternates to *Juncus*; also, it is a telial host for *Coleosporium terebinthinaceae* (Schw.) Arth., alternating to *Pinus*. Neither of these rusts is known to occur in Canada.

Isotype of *P. silphii* is located in the Arthur Herbarium, Purdue University, Lafayette, Indiana: on *S. trifoliatum* L., North Carolina, PUR 42074.

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