



Teliospores in optical section and in surface view,  
 × 1500. Markings indistinct even with phase-contrast illumination. From the holotype.

***Puccinia urbanis* Savile sp. nov.**

PYCNIA, AECIA UREDINIAQUE ignota, verisimiliter desunt. TELIA praecipue hypophylla, primo epidermide tecta, lucentia, atrobrunnea, pulverulenta. TELIOSPORAE (claratae) 28-52(-54) $\mu$  long., 12.5-21(-24) $\mu$  lat., haud vel vix constrictae, (subglobosae vel) a brevi-ellipsoideis usque ad longicylindricas; parietes 1.5-2.2 $\mu$  crass., auranto-brunnei vel castanei, lenissime rugulosi cristis irregularibus subreticulatis usque ad 0.4 $\mu$  alt. et 0.8 $\mu$  lat. super poras sed alibi minores quam 0.2 $\mu$  alt. et 0.5 $\mu$  lat. vel prope basem carentes; pori germinativi ab apice ad 1/4(-1/3) depressi papillis flavidis 2-3.5(-5) $\mu$  alt. et 6.5-8 $\mu$  diam., et a septo ad 1/6 depressi papillis minoribus; pedicelli hyalini deciduique.

Eponymus: Clarissimus doctissimus amicus doctor Zdenek Urban Universitatis carolinae pragensis, eruditissimus Uredinialibus tribi Gearum.

HOST: *Geum calthifolium* J.E. Sm. in Rees.

DISTRIBUTION: British Columbia.

COLLECTION: B.C., ca. 1300 m., Mt. Fougner, near Bella Coola, 23 Aug. 1956, DAOM 145468 (holotype; isotypes in PRC, PUR) (Calder, Parmelee & Taylor 20360).

NOTES: *Puccinia urbanis* is known in DAOM only from the type collection. The markings on the spores are so shallow that the spores glint under the dissecting microscope, in contrast to the matte appearance of the strongly rugose spores of *P. sieversiae* on *Geum rossii* var. *turbinatum* (*G. turbinatum*). Urban (Stud. Bot. Cechosl. 9: 57-66. 1948; Folia Geobot. Phytotax., Praha, 2: 189-196. 1967) reviewed the evolution of the rusts of the tribe Geeae and of their hosts. *P. urbanis* is added to this series in the accompanying table in which the hosts are classified according to Gajewski (Monogr. Bot. 4: 1-416. 1957).

<i>Puccinia</i>	Hosts	Spore Shape	Spore Walls	Pedicels
<i>waldsteiniae</i> N. Am., E. Asia, Eu.	<i>Waldsteinia</i> spp.	Long and slender	Smooth, strong apical thickening	Very firm
<i>gei</i> Tasmania, N.Z.	<i>Geum</i> sg. <i>Oncostylus</i>	Long and slender	Smooth, mod. apical thickening	Delicate but ± persistent
<i>gei-parvifolii</i> N.Z.	<i>Geum</i> sg. <i>Oncostylus</i>	Long and slender	Smooth, mod. apical thickening	Delicate but ± persistent
<i>urbanis</i> B.C.	<i>Geum</i> sg. <i>Acomastylis</i> sect. <i>Megacomastylis</i>	Long and slender to short, broad	Faintly rugose, uniform + pore caps	Deciduous
<i>sieversiae</i> var. <i>sieversiae</i> Colo., Utah	<i>Geum</i> sg. <i>Acomastylis</i> sect. <i>Micracomastylis</i>	Short and broad	Strongly rugose, uniform + pore caps	Deciduous
<i>sieversiae</i> var. <i>tatrensis</i> Slovakia	<i>Geum</i> sg. <i>Oreogeum</i>	Short and broad	Strongly rugose, uniform + pore caps	Deciduous

These are the only known species of *Puccinia* on Rosaceae, which strengthens the belief that they are a natural group. Their occurrence strengthens the contention of Gajewski (*Ibid* and *Evolution* 13: 378-388, 1959) that Geeae, Cercocarpeae and Dryadeae should be excluded from Rosoideae and placed in a subfamily Dryadoideae. Rosoideae in the narrow sense take many rusts of the tribe Phragmideae (Savile, *Brittonia*, 20: 230-231, 1968). However, Dryadoideae are probably closer to Rosoideae than to any other subfamily, a view supported by the occurrence of two species of *Phragmidium* on *Geum* (*Phr. circumvallatum* on sg. *Orthurus*, and *Phr. miyabeaenum* on sg. *Sieversia*).

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