

Comparison of *Puccinia kuehnii* and *P. melanocephala*

	<i>Puccinia kuehnii</i>	<i>Puccinia melanocephala</i>
Uredinia	primarily hypophyllous	primarily hypophyllous
	sometimes amphigenous, up to 4 mm	sometimes amphigenous, up to 4 mm
	orange to reddish brown	cinnamon-brown to dark brown
	subepidermal, then erumpent	subepidermal, then erumpent
Paraphyses	inconspicuous, sometimes absent	abundant
	pyriform to clavate or broadly ellipsoidal	capitate to spatulate
	hyaline to pale brown	hyaline to golden brown
	24-60 µm long, 6-14 µm wide at apex	32-98 µm long, 12-25 µm wide at apex
	wall thickness: thin, >1 µm	wall thickness: stipe 1-2.8 µm, apex 4-15 µm
Urediniospores	obovoid to pyriform or broadly ellipsoidal	obovoid or ellipsoidal
	orange to cinnamon-brown	cinnamon-brown to dark brown
	33-53 x 21-31 µm	25-39 x 17-28 µm
	wall thickness: 1-2.3 µm, up to 12 µm at apex	wall thickness: 0.8-2.3 µm, uniform
	germ pores: 4-5 equatorial	germ pores: 4-5 equatorial
	Spines evenly distributed	Spines evenly distributed, sometimes clustered at pores
Telia	hypophyllous, translucent, exposed	hypophyllous, black, exposed
Teliospores	2-celled, rarely 3-celled	2-celled
	slight or no constriction at septum	slight constriction at septum
	fusiform to clavate	clavate
	31-55 × 10-17 µm	34-56 × 16-24 µm
	wall smooth	wall smooth
	wall 0.5-1.2 µm thick, uniformly thin	wall 2-3.5 µm thick, 2.5-8 µm thick at apex
	hyaline	upper cell dark brown, lower cell paler
	pedicel sessile, or up to 12 µm long, hyaline	pedicel 4-17 µm long, dark brown
	telial paraphyses absent	telial paraphyses long, capitate
Spermogonia	unknown	unknown
Aecia	unknown	unknown