

**Koerberiella B. Stein (1879)**  
(PORPIDIACEAE)

After Brodo (1995) and Hawksworth (1992)

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**THALLUS** crustose, superficial, areolate; areoles contiguous or dispersed; **prothallus** indistinct, or blackish and mainly between the areoles; **isidia** usually present, cylindrical to slightly clavate; **cortex**  $\pm$  pseudoparenchymatous, outer cells rounded, without a layer of dead tissue (epinecral layer); **algal layer** photobiont trebouxoid; **medulla** I-.

**APOTHECIA** sessile, developing from isidia-like protruberances; **disc** flat to slightly convex, red-brown to dark brown, not pruinose; **thalline exciple** persistent,  $\pm$  pseudoparenchymatous, outer zone brownish; **true exciple** not clearly differentiated; **hypothecium** colorless or occasionally brownish below; **hymenium** colorless, I+ bluish brown or bluish brown to orange; **epihymenium** brownish to brown, not granular; **paraphyses** branched and anastomosed, apices thickened; **asci** 8-spored, elongate-clavate, *Porpidia*-type; **spores** ellipsoid, colorless, simple, with a strongly thickened perispore when young, wall I-.

**SPERMOGONIA** immersed in the tips of the isidia, walls brown at the apex and colorless below; **fulcra** conidiogenous cells arranged in chains, enteroblastic; **spermatia** arising mainly pleurogenously, bacilliform, colorless, simple.

**CHEMISTRY:** Gyrophoric acid and unidentified substances.

**ECOLOGY:** On rock.

**K. wimmeriana** (Koerber) B. Stein

**THALLUS** clearly visible, thick, edge definite, not lobate, continuous and rimose-areolate or dispersed areolate,  $\pm$  smooth or developing cylindrical tuberculate verrucae resembling thick isidia, often with pycnidia at the tips; **areoles** 0.3-0.7 mm diam., rounded or contorted; **surface** light yellowish pink darkening to brownish pink or grayish reddish brown; **isidia** absent (present according to Hawksworth); isidia-like structures usually present, mostly one per areole, to 0.75(-1.25) x (0.3-)0.5-0.6 mm; **soredia** absent; **cephalodia** absent; **prothallus** absent; **cortex** c. 20  $\mu$ m thick, outer cells (4.5-)6-6.5(-7.5) x (4.5-)5-5.5(-6.5)  $\mu$ m; **algal layer** photobiont trebouxoid (cells 5-9  $\mu$ m diam.).

**APOTHECIA** lecanorine, 0.5-1.1(-1.5) mm diam., occurring singly, sessile or slightly constricted at base, flat when mature; **discs** pale to dark brown, reddish, or orange-brown, epruinose or lightly pruinose, smooth; **margin** prominent or even, smooth, uniform, epruinose, thallus-colored to darkening to grayish reddish brown; **cortex** distinctly delimited, paraplectenchymatous, cells 4.7-6.2  $\mu$ m across, not gelatinous, 45-65  $\mu$ m thick laterally and at base; **amphithecium** without crystals; algae filling amphithecial medulla; **true exciple** fairly distinct; **hypothecium** colorless or almost so, distinct from exciple, 40-40  $\mu$ m thick, unchanged in K; **hymenium** (110-)128-140(-175)  $\mu$ m, hyaline, amyloid; **epihymenium** brown, with coarse, superficial granules soluble in N; **paraphyses** highly branched and anastomosing, slender, 1.5-2  $\mu$ m wide, tips slightly expanded, 2.5-5  $\mu$ m, not pigmented, coherent in water and K; **asci** (80-)105-115 x 20-25  $\mu$ m, clavate, tip with a cylindrical I+ blue cylinder, often lamellate (*Porpidia* type); **spores** remaining hyaline, non-septate, halonate, thin-walled, (17-)19-24(-30) x (9-)9.5-10.4(-15)  $\mu$ m, 8 per ascus.

**PYCNIDIA** sunken in tips of isidioid verrucae, with rather broad, brown ostioles; **conidia** ellipsoid or bacillariform, 3.5-4.3(-5) x 0.9-1.0(-1.5) um, often showing a short attachment peg at one end.

**CHEMISTRY:** Thallus cortex and medulla P-, K-, C- or C+ pink or red, KC- or KC+ pink or red, I-, lichenan test negative; thallus UV(LW)- or + creamy white. Apothecial discs C-, UV-. 5-O-acetyl-r-methylhiassic acid major, gyrophoric, trace of lecanoric and two unknowns slightly UV(LW)+.

**ECOLOGY AND DISTRIBUTION:** On HCl- rocks (calcareous schists and epidiorites according to Hawskworth), non-maritime (alpine according to Hawskworth), especially in wet or inundated situations. Oregon, British Columbia, Alaska.

### **Literature**

Brodo, I. M. 1995. Koerberiella (Porpidiaceae, Ascomycotina), a new genus of lichens for North America. The Bryologist 98: 609-611.

Hawskworth, D. 1992. Koerberiella. In: Purvis, et al., Lichen Flora of Great Britain and Ireland.

Rambold, G., H. Hertel & D. Triebel. 1990. Koerberiella wimmeriana (Lecanorales, Porpidiaceae) and its lichenicolous fungi. Lichenologist 22: 225-240.