

**Pseudoparmelia** Lynge  
(LECANORALES: PARMELIACEAE)

After Elix & Nash, Hale, and others

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Thallus foliose, lobed, radiate, adnate; lobes short and narrow; upper surface gray to yellow-gray; medulla yellow; upper cortex of anticlinal hyphae forming paraplectenchyma (palisade plectenchyma); lower cortex brown to pale brown; rhizines moderately dense, simple, to the margin; margins eciliate. Isidia sometimes present; soredia and pustules absent. Pseudocyphellae absent. Pored epicortex present. Cell walls containing isolichenan.

Apothecia laminal, sessile, eperforate; disk concave, round; margin thalloid; hypothecium pale; paraphyses branched; asci clavate, unitunicate, I+ blue; tholus I+ blue; spores 8, simple, hyaline, thin walled, ellipsoid to subspherical, 6-9 x 4-7  $\mu$ m.

Pycnidia laminal, immersed; fulcrum endobasidial, bayonet-like; pycnospores elongate-bifusiform to filiform, 12-20 x 1  $\mu$ m. Photobiont *Trebouxia*. Upper cortex with atranorin and secalonic acids, without chloratranorin and usnic acid. Medulla with secalonic acids and  $\beta$ -orcinol depidones, without other kinds of substances. On bark or rock. Tropical to temperate forest and woodland.

The related genus *Canoparmelia* has a purely gray upper surface, white medulla, larger, ellipsoid spores and shorter, fusiform to bifusiform conidia. *Paraparmelia* has a white medulla, lacks secalonic acids, has shorter conidia, contains *Xanthoparmelia*-type lichenan, and occurs primarily in the Southern Hemisphere; it is saxicolous, while North American species of *Pseudoparmelia* are corticolous. *Flavoparmelia* has a distinctly (greenish-) yellow cortex, with usnic acid, without atranorin.

- 1. Medulla P+ orange-red, containing stictic acid or salazinic acid. .... 2**
- 1. Medulla P-; stictic and salazinic acids absent.** Hypostictic acid absent. .... 3
  - 2. Medulla K+ yellow then dark red; salazinic acid present. .... *P. floridensis***
  - 2. Medulla K+ yellow; stictic acid present.** Lobes 2-7 mm wide; lower surface ivory to pale tan. .... *P. cubensis*
- 3. Thallus thick, brittle when dry; medulla containing butlerins. .... (*P. sphaerospora*)**
- 3. Thallus thin, coriaceous when dry; medulla lacking butlerins. .... *P. uleana***

*P. cubensis* (Nyl.) Elix & Nash

Thallus adnate, 5-10 cm wide. Lobes crowded, imbricate, subirregular to sublinear, 2-7 mm wide; apices rotund. Upper surface pale green to yellow-gray, becoming brown with age, flat to convex, shiny, becoming dull, rugulose to minutely pitted,  $\pm$  maculate, lacking isidia. Medulla pale yellow to yellow. Lower surface rugose, ivory to brown or pale olive-brown, with a darker brown marginal zone; rhizines sparse to moderately dense, off-white to pale brown. Apothecia common, sessile, 1-3 mm wide; disc concave, epurinose, red-brown to dark brown; thalline exciple rugulose, margin involute. Ascospores broadly ellipsoidal, 7-12 x 5-8  $\mu$ m. Pycnidia numerous, immersed or slightly emergent. Conidia bifusiform, 7-9 x 0.7-1.0  $\mu$ m.

Cortex K+ pale yellow; medulla K+ yellow, C+ yellow, KC+ orange, P+ orange-red.

Atranorin (trace), chloratranorin (trace), and secalonic acid A (major) in the cortex; secalonic acid A (major), stictic acid (major/minor), norstictic acid (minor/trace), cryptostictic acid (minor/trace), constictic acid (trace), and unknown secalonic acid derivatives (minor/trace) in the medulla.

On tree trunks in forests and open woodland, from sea level to 2000 m. Alabama, Florida, Louisiana, Mississippi, Mexico (Chiapas and Jalisco).

P. floridensis Elix & Nash

Thallus adnate, to 5 cm wide. Lobes crowded, imbricate, subirregular to sublinear-elongate, 2-7 mm wide, apices rotund. Upper surface yellow-gray, becoming brown with age, flat to convex, shiny, becoming dull, rugulose to minutely pitted,  $\pm$  maculate, lacking isidia, occasionally with granular white pruina towards the lobe apices. Medulla pale yellow to yellow. Lower surface rugose, tan to brown, with paler brown to ivory marginal zone; rhizines sparse to moderately dense, often more prominent subapically, simple to tufted, brown. Apothecia common, sessile, 2-3 mm wide; disc concave, epruinose, red-brown to dark brown; thalline exciple smooth, shiny, margin involute. Ascospores ellipsoidal to subsphaeric, 7-9 x 5-7  $\mu$ m. Pycnidia numerous, immersed or slightly emergent. Conidia bifusiform, 6-10 x 0.7-1.0  $\mu$ m.

Cortex K<sup>+</sup> yellow; medulla K<sup>+</sup> yellow then red, C<sup>+</sup> yellow-orange, P<sup>+</sup> orange-red. Atranorin (minor) and secalonic acid A (major) in cortex; secalonic acid A (minor), norstictic acid (submajor), salazinic acid (major) and unknown secalonic acid derivatives (minor) in the medulla.

On trees in open woodland and forests at low elevation, Florida.

P. sphaerospora (Nyl.) Hale

Thallus adnate, 5-10 cm broad; upper surface pale yellowish mineral gray; medulla white to pale yellow orange; lower surface uniformly tan or pale buff, moderately rhizinate. Apothecia very common. Medulla K<sup>+</sup>, C<sup>+</sup>, P<sup>+</sup> yellowish (stictic acid and unknowns). Common on deciduous trees in humid forests, SE coastal plain (to Fla.). [Description from Hale; Elix & Nash report the species only from Africa; American records are apparently mostly P. uleana]

P. uleana (Muell. Arg.) Elix & Nash

Thallus adnate, 5-10 cm wide. Lobes crowded, imbricate, subirregular to sublinear-elongate, 2-7 mm wide; apices rotund. Upper surface pale green to yellow-gray, becoming brown with age, flat to convex, shiny, becoming dull, rugulose to minutely pitted,  $\pm$  maculate, lacking isidia, occasionally with granular white pruina towards lobe apices. Medulla pale yellow to yellow. Lower surface rugose, tan to brown, with a paler brown to ivory marginal zone; rhizines sparse to moderately dense, often more prominent subapically, simple to tufted, brown. Apothecia common, sessile, 2-3 mm wide; disc concave, epruinose, red-brown to dark brown; thalline exciple smooth, shiny, margin involute. Ascospores subsphaeric, 5-9 x 4-7  $\mu$ m. Pycnidia numerous, immersed or slightly emergent. Conidia bifusiform, 6-10 x 0.7-1.0  $\mu$ m.

Cortex K<sup>+</sup> yellow; medulla yellow, C<sup>+</sup> yellow-orange, KC<sup>+</sup> yellow-orange, P<sup>-</sup>. Atranorin (trace), chloratranorin (trace), and secalonic acid A (major) in the cortex; secalonic acid A (major) and unknown secalonic acid derivatives (minor/trace) in the medulla.

On trees in forests and open woodland, from sea level to 1200 m. Alabama, Florida, Louisiana, Mississippi, Mexico (Chiapas).

## Literature

Elix, J. A. 1993. Genera of Parmeliaceae.

Elix, J. A., J. Johnston and D. Verdon. 1986. Canoparmelia, Paraparmelia and Relicinopsis, three new genera in the Parmeliaceae (lichenized Ascomycotina). Mycotaxon 27: 271-282.

Elix, J. A. and T. H. Nash III. 1997. A monograph of the lichen genus Pseudoparmelia (Ascomycotina, Parmeliaceae). The Bryologist 100: 482-498.

Hale, M. 19 . Pseudoparmelia. [need to put in more info. from this]

Hale, M. 1979. How to Know the Lichens.

Rogers, 19 . Genera of Australian Lichens.