

**Usnea Subg. Usnea Sect. Rubiginea**

Rev. Nov. 1993

**Surface of thallus (fresh specimens) at least partly with distinct red or rosy color (sometimes only visible in section), little changed in herbarium.**

Thallus small to medium sized, tufted, rarely pendulous, often densely branched, typically rigid; smooth or irregularly verruculose; papillae rare and acute, or dense but obtuse. Medullus  $\pm$  dense. Axis or medulla sometimes also red. Branches terete,  $\pm$  thin, with rather distinct apical portions, at most indistinctly articulate; pseudocyphellae absent; fibrils usually not abundant or regularly distributed.

This section was called Sect. Setulosae Subsect. Rubigineae. Although it may not be a natural group, it (and a few other reddish species crossreferenced here) are usually easily recognized because of the thallus color, while the other "subsection" (Setulosae), with a greenish thallus, is likely to be easily confused with many species in various other sections.

**1. Thallus pendulous, to 20 cm long, very soft and limp, pale clear green in life, dusky brown to nearly red in herbarium; pruinose chaffy with abundant spinules. Thallus sterile; isidiose soredia abundant. Medulla K+ vivid red. CMA 100:400:400. Southwestern**

US. .... (See U. furfurosula in Scabridae)

**1. Thallus shrubby, to 7 cm long, or if longer (to 15 cm) or  $\pm$  pendulous, then hard and stiff. .... 2**

**2. Thallus to 15 cm long, becoming subpendulous or pendulous. .... 3**

**2. Thallus small, to 78 cm long, tufted to subpendulous. (Pycnocladae). .... 4**

**3. Thallus pale ashy green when fresh, reddish tan in old herbarium specimens. Thallus hard and stiff, 15 cm long; pendulous; branches slender, ca. 0.7 mm thick. Branches hoary when soredia are present. Medulla K. Thallus pendulous, compressed; base scarcely distinct, soon branched above base; main branches mostly unbranched, straight or slightly flexuose, uniformly ca. 0.7 mm thick along most of their length, terete,  $\pm$  continuous, almost smooth, almost without papillae, sometimes**

with minute verrucules. Branchlets (fibrils) very noticaeble, 0.51 cm long, perpendicular, nearly always again branched; tips acute or obtuse. Soredia usually absent, but thallus appearing hoary when soredia are present. Medulla very dense; axis horny in texture. Fleshcolored pseudocephalodia present on fibrils. CMA 60:80:400. Apothecia unknown. Florida.

..... (See U. finkii in **Ossoleucae**)

**3. Cortex pure red or rose (sometimes seen only in section) when fresh, little changed (perhaps somewhat browner) in herbarium..... 4**

**4. Branchlet tips + pointed, thin.** not lurid brown; sometimes yellowish green with red spots. Thallus to about 15 cm long, shrubby to subpendant, isidiate or isidiatesorediate. CMA 75180:120280:200500. Axis solid, white, with no dark hyphae. Medulla very dense, white, K+ yellow, P+ yellow (stictic acid aggregate, or, in "U. rubescens", norstictic and salazinic acids); I+ indistinctly blue. On bark. + Southeastern. .... (see U. rubicunda, below)

**4. Branchlet tips blunt, thick, coralloid, fingerlike.** Axis with dark hyphae. Thallus to at least 13 cm long; surface shiny. CMA 120:200:560. Thallus pendulous; surface frequently white maculate towards tips. Primary branches ca. 1.5 mm thick, often dichotomously branched above base; secondary branches frequent; branches slightly curved, thinner towards base, thickened to 1.8 mm upwards; extreme tips almost semiglobose, ca. 1 mm thick; branches almost terete, foveolate, appearing continuous but not rarely annulate, rather densely rimoseareolate. Apices sorediate; soralia maculiform, white, slightly raised, farinose, well developed. Medulla K+ intense yellow, I+ indistinctly bluish. Mostly southeastern US (Pennsylvania to Florida); southern California; Mexico ..... U. mirabilis

**5. Cortex with reddish spots or tinges when fresh. .... 6**

**5. Cortex greenish when fresh (without red tinges or spots), but turning reddish brown in herbarium. (see Pycnocladae). .... 7**

**6. Cortex pure red or rose (sometimes seen only in section), not lurid or brownish; sometimes yellowish green but with pure red spots.** Branchlet tips + pointed, thin. Thallus to about 15 cm long, shrubby to subpendant, isidiate or isidiatesorediate. CMA 75180:120280:200500. Axis solid, white, with no dark hyphae. Medulla very dense, white, K+ yellow, P+ yellow (stictic acid aggregate, or, in "U. rubescens", norstictic and salazinic

acids); I+ indistinctly blue. On bark. +  
Southeastern. .... U.  
rubicunda (incl. U. sublurida Stirt.)

**6. Cortex partly green (brownish in herb.), partly dark lurid reddish (commonly red of medulla seen only in sections);** axis without dark hyphae. Thallus to 68 cm long. CMA 50150:150225:250450. Thallus shrubby and erect, to subpendulous, rigid; base short, rather thick; repeatedly dichotomously branched; branches 1.3-1.5 mm thick, flexuose; surface rather rarely transversely cracked, the thicker branches slightly rimose areolate; thicker branches verrucose papillate; papillae long and almost cylindrical, or short and + semiglobose, wartlike, concolorous. Fibrils absent or few and poorly developed. Soredia white, farinose becoming isidiate; soralia on upper parts of branches on slightly raised, spinulelike warts. Pale "pseudocephalodia" present. Medulla dense, I+ blue; inner part K+ yellow to red, outer part K. Eastern US (Connecticut to Florida, west to Iowa); California.

..... U. pennsylvanica

**7. Thallus 24(7) cm long,** divergently branched, + smooth, never tuberculate. Farinose sorediate. + Northern US. .... (See U. glabrata)

**7. Thallus 47 cm long,** erect or prostrate. Without branchlets. On rocks, California. .... (See U. cornuta s.l.: U. inflata)