

Dirinaria (Tuck.) Clem.
(LECANORALES: PYXINACEAE)

After Awasthi, Harris, 1990, and others

Rev. 5/94

More info. from Awasthi needed; key may need rearranging;
the genus could be more appropriately called a macrolichen

Thallus foliose-subfoliose, dorsiventral, heteromerous, closely appressed to substrate, appearing placodioid-crustose and often radiate-plicate (with \pm confluent lobes), without rhizines but with lower cortex, suborbicular to spreading; lobes narrow, radiating, discrete or confluent at margins, centrally confluent, eventually verrucose to subcrustose; branching pinnate, subpinnately-dichotomous to subdichotomous; upper surface glaucous-gray, glaucous white, pale gray to dark gray, smooth or wrinkled, with or without soredia, with or without pruina. Upper cortex paraplectenchymatous. Medulla white or pale yellow in upper part, occasionally reddish. Lower cortex of longitudinal, thick, brown hyphae, black, rarely pale gray to gray.

Apothecia sessile to subpedicellate; disk concave to convex, round, black, epruinose or occasionally lightly gray- or purple-pruinose; thalline margin present, distinct, well developed, with persistent algal cells at the upper edge or along the greater part; hypothecium dark; paraphyses unbranched; asci clavate, unitunicate, 1+ blue; tholus 1+ blue; 8 spored; spores 1-septate, brown, thick walled, ellipsoid to elongate-ellipsoid, not constricted at center.

Pycnidia immersed; fulcrum endobasidial; pycnospores short, cylindrical. Cortex with atranorin and chloratranorin. Divaricatic acid (UV+), sekikaic acid (UV-), triterpenoids, zeorin, lecanoric acid, ramalinolic acid. Photobiont Trebouxia. On rocks and trees, mainly tropical.

The lack of rhizines distinguishes Dirinaria from Pyxine and Physcia; also the lobes are appanate and confluent at least towards the center. When fertile, the lecanorine apothecia distinguish Dirinaria from Diploicia, but when sterile the two genera can be extremely similar; one of the main features somewhat useful in separating them is the darkish, brown-gray apical areas of the lobes of Diploicia.

1. Not isidiate or sorediate. Thallus over 3 cm diameter. Upper side \pm glaucous; medulla white; general underside black. 2

1. Isidiate or sorediate. 4

2. Disc of apothecia purple pruinose, either persistently or in young stages only. Thallus usually small; lobes discrete.

Paraphyses not capitate. With divaricatic acid. Usually on bark or wood. Mostly in Louisiana and Florida. Similar to D. confusa. D. purpurascens

2. Discs black, bluish or whitish pruinose or bare. 3

3. Sekikaic acid agg. present. Thallus whitish mineral gray, 4-10 cm broad, sometimes covering extensive areas. Apothecia very common, sessile to constricted at base, not substipitate; disk black. Hypothecium dark brown to brown black, 80-120(-150) um thick at center; hymenium more than 80 um thick. (etc.). Common on bark of exposed trees in the Gulf states from S. Carolina to NE Mexico (v. confusa) or rock, especially in at least northwestern Mexico (v. saxicola). D. confusa

3. Divaricatic acid present. D. confluens

4. Medulla red. Divaricatic acid. Florida. D. leopoldii (Stein) Awasthi

4. Medulla white. 5

5. Isidiate; isidia subglobose to cylindrical, never forming pustules or soredia. Divaricatic acid. Florida. D. papillulifera (Nyl.) Awasthi

5. Sorediate, pustulate, or isidiate-pustulate; soredia coarse-granular or fine-farinose, sometimes at tips of isidia. 6

6. Soralia developed at tips of thick erect isidial growths, craterform. Hypothecium lens-shaped. (D. confusa)

6. Soralia developed on thallus surface (not elevated on isidia), globose capitate or forming craterform verrucae. Upper cortex C-. Lower side with well developed cortex. Thallus generally coriaceous. Medulla white (to yellowish, but not red). With divaricatic acid. 7

7. Soralia on craterform verrucae, soredia granular; isidia often common, pustular, breaking open. Hypothecium less than 120 um thick at center, lens-shaped. Thallus whitish gray, closely adnate, 2-5 cm broad; lobes crowded to confluent, to 1 mm wide; lower usrface black, without rhizines. Apothecia lacking. Medulla K-, C-, P-, with divaricatic acid. Common on bark of oaks and other hardwoods in open forests and pastures, Gulf States (Georgia to E. Texas). [Description from Hale, based mostly on "D. aspera", and may not fully apply; according to Egan N. American reports of D. aegialita are based on C. confusa and C. confluens; however, if D. aspera is included then D. aegialita does occur in N. America]. D. aegialita (incl. D. aspera)

7. Soralia globose capitate, soredia fine-farinose. Isidia lacking. Hypothecium more than 120 um thick at center. 8

8. Lobes to 0.5 mm wide; thallus soft, fragile. Lobes discrete, adglutinated to substrate, tips bluish; non-plicate. Thallus 2-3 cm broad, closely adnate, smooth, greenish gray to cream-colored, usually bearing scattered white soredia; lobes subpalmately divided, imbricated, the margins crenate; lower side black, bearing minute brownish black rhizines; medulla white. Apothecia 0.5-0.8 mm diam., sessile; disk flat, black; margin thin, crenate; hypothecium dark brown; spores oblong-ellipsoid, 1-septate, 14-20 x 5-7 μ m. On rock ledges in open woods, often on overhanging flat surfaces. New England to the Ozarks; southern New Mexico/western Texas; Michigan. D. frostii

8. Lobes 0.5-1(-2) mm wide; thallus coriaceous. Discs black. Divaricatic acid. 9

9. Lobes pinnately or subpinnately divided, discrete at periphery of thallus, plane; tips narrow to oblong; thallus scarcely plicate-rugose. Thallus suborbicular to spreading, 3-5(-8) cm diam., often confluent, closely attached. Lobes stellate-radiating, contiguous, pinnatifid to multifid, 1-1.5 mm wide, \pm discrete at periphery, apices acute, rounded to spatulate, not flabellate-confluent, faintly longitudinally lacunose. Upper surface glaucous-white, pale gray to glaucous-gray, smooth, \pm shining, epruinose to faintly pruinose at apices, sorediate. Soralia laminal, capitate, sparsely distributed or frequent, discrete, not confluent, globose, farinose, pale grayish, 0.7-1 mm diam., initially appearing as small warts which later expand; soredia fine, powdery, white or grayish. Lower surface black. Apothecia usually rare or few, but sometimes numerous, central, rounded, 0.5-1.5 mm diam., subpedicellate; disc plane to subconvex, black, epruinose; margins thick, entire to subsulcate, concolorous with thallus. Spores biseriate, 12-21 x 5-9 μ m. Medulla K-, C-, P-, with divaricatic acid. On bark of deciduous trees in open woods, citrus groves and along roadsides, or on rock. S. Carolina to Florida, W to Texas. D. picta

9. Lobes subdichotomously, dichotomously or irregularly divided, confluent from the peripheral region of thallus, often convex; tips generally flabellate; thallus generally longitudinally rugose-plicate. Thallus suborbicular to spreading, 3-6 cm diam., closely appressed. Lobes dichotomously to irregularly divided, 1-2 mm wide, contiguous, apices rounded, flabellate, scarcely distinctly discrete at periphery; upper surface glaucous-white or yellowish glaucous-gray to gray, moderately to densely pruinose, sorediate, longitudinally plicate-rugose centrally, becoming subverrucose or subcrustose. Soralia laminal, on convex parts of plicate thallus, globose-capitate, 0.5-1 mm diam., discrete, or dense and confluent; soredia fine, farinose, rarely granular, white. Lower surface black. Apothecia infrequent, laminal, sessile to subpedicellate, 0.6-2 mm diam.; disc black, epruinose or subpruinose; margins thick, entire, concolorous with thallus. Spores biseriate, 12-22 x 6-10 μ m. Medulla K-, C-, P-, with divaricatic acid. On bark. D. applanata

Literature

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