

Trichothelium Müll. Arg. em. R. Sant.
(TRICHOTHELIACEAE)

After Awasthi, and Lücking, 1992, Harris (1995) and ? (see Santesson, 1952)

Rev. November 18, 1998

Thallus crustose, uniform, effuse, ecorticate. Perithecia sessile; ostiole surrounded by a crown of stiff brown-black or white setae or spines (horizontal bristles) formed by agglutinate, simple hyphae; excipulum partly black. Paraphyses unbranched; asci clavate, thin walled, the endoascus reduced to a thickening at the tip, with a chitinous ring at the tip of the exoascus; 8-spored; spores acicular, transversely many septate to submuriform or muriform, thin walled, colorless; cells cylindrical. Pycnidia unknown. Photobiont Phycopeltis or Trentepohlia. On leaves in humid forests.

Trichothelium s. lato

Note: Esslinger's (1998) updated checklist accepts Harris's (1995) broad concept of Trichothelium, but McCarthy puts most species into Porina

A. Trichothelium s. stricto
Ascomata setose. Thallus not isidiate.

1. On leaves. Ascospores fusiform, 8-celled, (25-)36-50 x 4-6 μ m. On leaves. Louisiana. T. epiphyllum Müll. Arg.

1. On bark. Ascospores narrowly fusiform, 16-26-celled, with some cells longitudinally septate, 100-124 x 8-14 μ m. Florida. T. horridulum (Müll. Arg.) R. Sant.

B. Pseudosagedia
Ascomata not setose. Thallus not isidiate.

1. Growing in eastern North America. 2

1. Growing in western North America. 11

2. Thallus soft, dull, on a black byssoid hypothallus; ascospores narrowly fusiform to cylindrical, 4(-7)-celled, 20-35 x 2.5-3.5 μ m. On Taxodium. Florida. Trichothelium crocynioides
R. C. Harris

2. Thallus without obvious hypothallus. 3

3. Ascospores filiform, 14-21-celled, 100-140 x 3-5 μ m. Common, Florida. Trichothelium raphidospermum (Müll. Arg.) R. C. Harris

3. Ascospores not filiform, 4-13-celled. 4

4. Ascospores 4-celled. 5

4. Ascospores 8-13-celled. 6

5. Growing on bark; ascospores 20-24 x 4-5 μ m. Florida.

Trichothecium aeneum (Wallr.) R. C. Harris

5. Growing on rock; ascospores 18-25 x 4-5 um. Massachusetts, New York. Trichothelium chloroticum (Ach.) R. C. Harris

6. Growing on rock, often seasonally inundated; ascospores fusiform-clavate to fusiform, 8(-12)-celled, 32-45(-48) x 5-8(-10) um. Kentucky, Massachusetts, Missouri, North Carolina and Virginia. Trichothelium guentheri (Flotow) R. C. Harris

6. Growing on bark. 7

7. Ascospores fusiform, 8(-9)-celled, 30-38 x 6-9 um; ascomatal wall blue-green above in section, pale below; ascomata 0.3-0.4 mm diam. Florida. Trichothelium sp. (Harris 1995)

7. Ascospores clavate-fusiform or cylindrical; ascomatal wall brown or blue or violet in section. 8

8. Ascospores narrowly cylindrical, 8-13-celled, (34-)50-67 x 3.5-6 um. Florida. Trichothelium cestrense complex

8. Ascospores clavate-fusiform, 8-13-celled. 9

9. Ascospores 8-11(-13)-celled, 47-65 x 5-7.5 um. Florida. Trichothelium cestrense complex

9. Ascospores 8-celled. 10

10. Ascospores (32-)38-50 x 5.5-7.5 um. Florida. Trichothelium cestrense (Michener) R. C. Harris

10. Ascospores 28-35 x 4-6.5 um. Florida. Trichothelium cestrense complex

11. On calcareous rocks. Thallus immersed or partly superficial. British Columbia. Porina (Pseudosagedia/Trichothelium) linearis

11. On siliceous rocks. Thallus superficial. 12

12. Ascospores 8(-12)-celled. Trichothelium guentheri

12. Ascospores 4-celled. Thallus dark, \pm olive (to gray, dark green, brown or blackish), with an oily appearance. Usually on rock, but rarely on the shaded, smooth trunks of trees. Pacific NW (?). Trichothelium chloroticum

C. Zamenhofia

Ascomata not setose. Thallus isidiate

1. Ascospores (8-)13-17(-18)-celled, (55-)60-90(-95) x 5-7(-8) um. On bark. Zamenhofia hibernica (P. James & Swinscow) Clauz. & Roux

1. Ascospores 8(-9)-celled, 43-54 x 6-7.5 um. Isidia crowded, branched and irregular; ascomata \pm immersed and hidden by isidia. Ascospores clavate-fusiform. On bark, Illinois. Trichothelium isidiatum R. C. Harris

Descriptions of Species

(See under Porina or Pseudosagedia for most species)

T. crocynioides R. C. Harris

Thallus light olive gray, continuous, smooth, dull to almost byssoid in appearance due to short, irregular erect hyphae projecting from thallus surface; hypothallus conspicuous, black, byssoid, composed of loose interconnected dark brown or gray-brown hyphae. Ascomata black, immersed, subglobose, c. 0.2-0.3 mm diam.; wall blackish brown, sometimes with purplish tint, reddish purple in N. Asci cylindrical, 95-100 x 8-9 µm, with eight subbiseriate spores. Ascospores narrowly fusiform to cylindrical, 4(-7)-celled, 20-35 x 2.5-3.5 µm; microconidia not found. Florida.

T. epiphyllum Müll. Arg.

Perithecial setae totally brown-black (rarely lighter brown, especially at tips), forming star-like growth, projecting horizontally, forming a usually dense crown up to 1.4 mm diam. Spores 7-septate, (25-)35-50 x 4-6 µm; perithecia 0.2-0.3 mm diam.; outer excipulum wall brown, inner black. (If perithecia smaller, apical setae scarce, very thin, dispersed and usually curved upright forming a star up to 0.5 mm diam., = var. minutum). On leaves. Tropical. Louisiana.

T. isidiatum R. C. Harris

Thallus dark gray-green, continuous but mostly concealed by dense isidia; isidia \pm cylindrical, irregular, occasionally branched, with a thin, papillose? cortex. Ascomata immersed, almost concealed by isidia, black, subglobose, c. 0.3-0.4 mm diam.; wall brown above with bluish violet tints in lower part, pale below. Asci fusiform-cylindrical, c. 130-160 x 15-17 µm, with eight subbiseriate spores. Ascospores fusiform-clavate, 8(-9)-celled, 43-54 x 6-7.5 µm. Microconidia not found. Illinois.

Literature

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