

Sporastatia Massal.
(LECANORALES: ACAROSPORACEAE)

After Poelt, 1969, and others;
also see Kopaczewskaja, et al. (1971)

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Thallus crustose, areolate, uniform or \pm placodioid at margins, \pm thin (but not "poorly developed" as stated by Rogers); cortex of apically pigmented, anticlinal hyphae, with a colorless epinecral layer (thallus ecorticate according to Rogers), attached by medullary or prothallial hyphae; prothallus usually distinct, black, sometimes forming a rim around each areole, delimiting. Medulla I-.

Apothecia immersed, black, epruinose; disk circular, flat to slightly convex, often rough or wrinkled; thalline margin poorly developed to absent; proper exciple narrow, thin, black, \pm persistent, brown and K+ reddish at outer edge, colorless within, or brown throughout; hypothecium colorless, or pale brownish (dark according to Rogers), K+ reddish; hymenium colorless, I+ blue; epihymenium brownish (K+ reddish, N+ red); paraphyses mostly simple, rarely branched, free, septate, apical cell \pm clavate; asci clavate, unitunicate, thick walled, I+ pale blue; tholus I+ blue, uniformly K/I+ blue; spores many (100-200), ellipsoid to globose, simple, hyaline, thin walled, minute (2.5-4 x 2-3.5 μ m), without a distinct perispore.

Pycnidia immersed in thallus or in small warts; fuclrum exobasidial; pycnosporos bacilliform, short-cylindrical, simple, colorless. Photobiont Myrmecia (+ ?Trebouxia). Cortex and medulla sometimes C+ red (gyrophoric acid); prothallus often K+ or N+. On exposed hard siliceous rock, arctic-alpine to montane-boreal.

Distinguished from Polysporina and Sarcogyne by the K/I+ blue apical dome of the ascus, and the generally better developed and delimited thallus.

The genus is in need of revision in N. America. More info. on my unknowns and "Biatorella kulshanensis" is needed, and also more on the other species (need to check Thomson, 1979, and other sources).

1. Hypothallus poorly developed, inconspicuous. On acidic rocks, alpine, Washington.S. sp. (S. tenuirimata?)

1. Hypothallus well-developed, conspicuous at least at periphery of thallus.2

2. Spores 2-3.5 x 1-1.5 μ m, often oblong. Hypothecium hyaline. Thallus C-. Epithecium green-black. Thallus whitish gray to black; hypothallus K-. Apothecia immersed. Washington.["Biatorella kulshanensis"]

2. Spores at least 2 μ m wide, broadly ellipsoid to spherical. Hypothecium brownish gray. Thallus usually C+ red. Areoles flat to convex.3

3. Thallus brown (yellowish, reddish or blackish), usually epruinose and shiny, to 4 mm diam.; areoles to 0.6 mm diam., rounded in center of thallus; marginal areoles elongate and radiating; epinecral layer thick; algal layer discontinuous; prothallus usually forming a

black rim around each areole as well as around entire thallus. Epihymenium bluegreen, N+ strongly purple. Hypothallus K+ violet. Apothecia 0.2-0.6 mm diam., isolated and simple, often surrounded directly by thallus. Spores 3-4 x 2-3.5 um, often \pm ellipsoid. Thallus typically forming neat, discrete rosettes, to ca. 1-2 cm across. On exposed acid rocks. Arctic-alpine. Rocky Mountains; Sierra and Cascade Mountains (at least from California to Washington); White Mountains (I presume of New England). Material lumped under this name in the ASU herbarium is extremely variable, and it is likely that several different taxa are involved.S. testudinea

3. Thallus ashy gray (slightly bluish or yellowish), matt, to 8 cm diam.; areoles to 1 mm diam., angular to rounded; marginal areoles scarcely elongate; epinecral layer thin; algal layer continuous; prothallus conspicuous only at thallus edge. Epihymenium often olivish with weak N reaction. Hypothallus K+ bluegreen. Apothecia 0.2-1(-1.2) mm diam., often grouped or even compound, always separated from thallus by a fine crevice, immersed, flat. Spores 3-3.5 um diameter. On exposed acidic rocks. Arctic-alpine. Colorado?; Washington (my material reported from Chowder Ridge may need re-checking).S. polyspora

See Thomson 1997 for fuller descriptions of S. polyspora and S. testudinaria.

ADD:

Thallus effuse, extensive and irregularly spreading, to 5 cm or more across, without a trace of marginal lobes; areoles small; surface dark, \pm reddish brown, matt, C-; black hypothallus present. Apothecia absent, or sometimes present and rather large (considerably larger than those of S. polyspora, at least judging from material of that species in ASU). Spores globose. Cascades of Washington. S. sp. (possibly the same as the one referred to above as "S. tenuirrima")

Literature

Kopazevskaia, et al. 1971. [Keys to the Lichens of U.S.S.R.--partial English translation--need to check this to see if my unknowns might belong under one of the Russian species].

Poelt, J. 1969. Bestimmungsschlüssel europäischen Flechten. Cramer, Lehre.

Coppins, B. J. and O. L. Gilbert. 1992. Sporastatia. In: Purvis, et al., Lichen Flora of Great Britain and Ireland.

Rogers, 19 . Genera of Australian Lichens.