

Rinodina (Ach.) Gray
(LECANORALES: PYXINACEAE)

After Sheard (unpublished), Magnusson, Mayrhofer, and others

Rev. 5/94; incomplete; many problems

Thallus crustose to rarely squamulose, uniform or rarely marginally lobed, thick, thin, or disappearing, pale to dark gray, ochraceous or brown, continuous, cracked-areolate, or granular, rarely isidiate, determinate or not; prothallus absent, limiting, or entire and dark; ecorticate or with a paraplectenchymatous upper cortex; attached to substrate by medullary or prothallial hyphae. Medulla white or rarely yellow or orange.

Apothecia usually frequent, immersed to sessile, contiguous or not; thalline margin present at least initially, concolorous with disc or thallus, entire or crenulate, persistent or excluded at maturity, with or without a distinct cortex; cortex when present cellular, occasionally pigmented, sometimes columnar below or structure occluded with pigment, peripheral hyphae usually pigmented; true exciple present, often more visible in older apothecia, colorless or rarely brown, prosoplectenchymatous; disk brown to black, flat or convex at maturity, rarely pruinose. Hypothecium hyaline, rarely brownish or dark brown, stipe not usually present, colorless or dark; hymenium colorless, I+ blue; epihymenium brown to red-brown, or rarely dark brown or blue-green to blue-black; paraphyses rarely branched except near apices, apices expanded, brown-capped; asci clavate, Lecanora-type, unitunicate, thick walled, I+ blue; tholus I+ blue; spores usually 8, but up to 24, transversely 1(-3)-septate, placodiomorph, polarilocular or mischoblastiomorph, gray-green or pale to dark brown; mainly double-walled, walls usually unevenly thickened resulting in small locules linked by an isthmus; septum well developed at maturity; structure often complex; torus well developed or not; surface smooth or ornamented.

Pycnidia rare, immersed or prominent in warts; fulcrum endobasidial; pycnospores bacilliform, or in at least one species (R. lecideina) filiform. Often with atranorin; sometimes various phenolic acids (depsides, \pm depsidones), and occasionally zeorin. Photobiont Trebouxia. On bark, wood, rock or soil, arctic-alpine to temperate or tropical.

Differs from Buellia in having lecanorine apothecia and unevenly thickened spore walls. Can usually be distinguished in the field from most species of Lecanora s. lato (which have simple, colorless spores), other than Protoparmelia spp., by the frequent brownish tinge of the thallus or apothecial margin, and the \pm dark brown discs (without reddish or yellowish tinges).

Special attention needs to be paid to ascospore types in species identification; these are not always easy to distinguish and often vary

considerably during maturation.

**KEY TO SPORE TYPES IN RINODINA (AND OTHER PYXINACEAE)
(SEE MAYRHOFFER & POELT FOR PICTURES)**

1. Spore walls \pm uniformly thin, lumina rounded, not connected by isthmus.2
1. Spore walls \pm unevenly thickened at apex, septum, or both.3
2. Apical walls convex inward.Diploecium type
2. Apical walls not convex inward.Buellia type
3. Isthmus distinct and elongated.Orcularia type
3. Isthmus short and indistinct or absent.4
4. Lumina small (under 1/2 spore width), \pm round.Pachysporaria type
4. Lumina wider.5
5. Walls very thick and convex inward, especially at the apex; lumina boomerang-shaped (the two of them together forming an hourglass shape).Mischoblastia type
5. Walls less strongly thickened; lumina round to angular. ...6
6. With one or more conspicuous dark band running transversely across the cell.7
6. Without dark bands.8
7. With one dark band, over septum.Bischoffii type
7. With two dark bands, one over center of each cell.Bicineta type
8. With porus (small dark area on either side of septum where it joins the lateral wall) (this is often very difficult to see!).9
8. Without porus (Dubyana type, sensu lato). a) Shaped like Physconia type; b) shaped like Physcia type.
9. Apical walls straight or convex inward.10
9. Apical walls concave inward.Physconia type
10. Ellipsoid.Physcia type
10. Broad and blunt.Milvina type

Literature

(For description of the genus)

Fox, B. W. and O. W. Purvis. 1992. Rinodina. In: Purvis, et al., Lichen Flora of Great Britain and Ireland.

Galloway, D. 1985. Flora of New Zealand Lichens.

Poelt & Vezda. 1981. Erg. II.

Rogers, 19 . Genera of Australian Lichens.