

Heterodermia

in the Pacific Northwest

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Heterodermia Trev. Thallus foliose, adnate to suberect, to 10 cm broad; lobes narrow, typically < 2(3) mm broad; upper surface pale greenish gray, whitish, or pale grayish, many species with marginal cilia; lower surface white, tan, or orangish, partly or completely lacking a cortex, with pale or darkening rhizines; soredia present in many spp; apothecia lecanorine; spores dark, 1-septate; cortex K+Y (atranorin); medulla usually K+Y, P+Y or O; photobiont chlorococcoid; mainly on bark and wood, less often on rock.

Heterodermia, a segregate from *Anaptychia*, always has a K+Y cortex, while *Anaptychia* is K-. The two also differ in anatomical details. Both genera, however, contain appressed, rosette-forming species and suberect species.

In North America *Heterodermia* is most frequent and species rich in temperate areas with moist summer climates. This includes coastal fog areas, the mountains of Arizona and New Mexico with summer monsoonal climates, and eastern North America. The genus is absent in much of the central and northern Rocky Mountains, as well as the arid and semi-arid intermountain regions. It also does not occur in arctic-alpine areas in North America. The genus becomes increasingly rare westward in the boreal forests of Canada. Overall, it is a rare genus in the PNW.

1a Thallus of suberect, long, narrow lobes; marginal cilia long and conspicuous (often > 2 mm)

2a Soredia present beneath lobe tips

3a Lower surface ecorticate only near the lobe tips; medulla K-

Physcia tenella

3b Lower surface ecorticate nearly throughout; medulla K+Y

4a Lower surface with soredia in patches near the tips, clearly bordered by the reflexed upper cortex.

Thallus containing atranorin, zeorin, ± salacinic; uncommon on conifers on the immediate coast from Cal to BC, especially on windswept headlands

H. leucomela (L.) Poelt

= *H. leucomelos* (L.) Poelt, = *H. leucomelaena* (L.) Poelt

4b Lower surface sorediate nearly throughout, sometimes partly corticate in narrower lobed or poorly developed specimens, ecorticate parts not clearly bordered by the downrolled upper cortex.

Thallus containing atranorin and zeorin; on trees, shrubs, rocks, and soil; southern California and Baja

(H. namaquana Brusse)

2b Soredia lacking; medulla K+Y. Thallus containing atranorin and zeorin; coastal s Cal and Baja

(H. erinacea (Ach.) W. A. Weber)

[*Anaptychia setifera* is similar in form but has cortex and medulla K-]

1b Thallus of short, appressed lobes; marginal cilia short (< 2 mm)

5a Soredia restricted to abortive apothecia; on the immediate coast. Cortex and medulla K+Y; thallus containing atranorin and zeorin; Alas to Oregon (Cape Lookout; McHenry & Tønsberg 2002), typically on *Picea sitchensis*, apparently endemic to the PNW

H. sitchensis Goward & W. Noble

5b Soredia on apothecia and in crescent-shaped soralia at and below the lobe tips

6a Lower surface lacking a cortex. Medulla K+Y to R, P+O (atranorin, zeorin, ± norstictic acid, ± salacinic acid); on trees; very rare in coastal Oregon (near Florence, as *Heterodermia* sp. in McCune et al. (1997); Cape Lookout, McHenry & Tønsberg (2002)) disjunct from Asia and S Am; also in Ariz, New Mex, Baja, and Mex

H. japonica (Satô) Swinscow & Krog

6b Lower surface corticate. Cortex and medulla K+Y; thallus containing atranorin, leucotylin, and zeorin; on trees; widespread, but present in the PNW only in the northern parts, NE BC, coastal southeast Alas to Wash

H. speciosa (Wulfen) Trevisan

[The source of the Washington record is uncertain; it needs to be verified.]

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