

8 Species/subspecies recorded or high potential to be recorded in Alberta:

- arcticum** (L.) orss. (ACIMS)
- bellum** (Sprengel) Tuck. (ACIMS)
- expallidum** (Nyl.) Nyl. (ACIMS)
- helveticum** Ach. subsp. **helveticum** (ACIMS; rare)
- isidiosum** (Nyl.) Gyelnik (ACIMS; rare)
- occultum** Wetmore (McBride, BC; NA, UBC)
- parile** (Ach.) Ach. (ACIMS)
- resupinatum** (L.) Ach. (ACIMS)

DICHOTOMOUS KEY - *Nephroma*

Slightly modified from Goward et al. 1994

- 1a. Photobiont a **grass-green alga**; upper surface usually at least in part yellowish to greenish (especially when wet: check sheltered lobes); soredia and isidia absent; over mossy rock or decaying logs; restricted to cool, snowy districts..... 2
- 2a. Upper surface more or less shiny, mostly yellowish green; internal cephalodia visible from above as scattered darker patches; lower surface blackening toward thallus centre; apothecia common ***N. arcticum***
- 2b. Upper surface dull, greenish to brownish; internal cephalodia not visible from above; lower surface dark brown toward thallus centre; apothecia rare ***N. expallidum***
- 1b. Photobiont a **dark blue-green cyanobacterium**; upper surface brownish, greyish, or if greenish, then also sorediate or isidiate; ecology and distribution various 3
- 3a. Lower surface distinctly and more or less evenly covered in dense, woolly hairs, these tending to obscure the fine details of the surface wrinkles; soredia absent 4
- 4a. Upper surface greyish, sparsely covered in minute, linear white markings/maculae; lower surface whitish; lobe margins even; **over mossy logs or ground** (blue-green phototype of) ***N. arcticum***
- 4b. Upper surface brownish, not at all maculate; lower surface dark brownish 5
- 5a. Upper surface ridged and isidiate, isidia clustered and branched, usually restricted to ridges ***N. isidiosum***
- 5b. Upper surface more or less plane; isidia absent or, if isidia-like lobules present, then these usually occurring singly 6
- 6a. Lower surface sparsely "warty"/papillate (check fertile lobes); backs of apothecia broadly wrinkled and often covered in minute erect hairs; lobe margins usually (but not always) lacking lobules ***N. resupinatum***
- 6b. Lower surface lacking "warts"/papillae; backs of apothecia occasionally rough-textured, never hairy; lobe margins distinctly lobulate ***N. helveticum***
- 3b. Lower surface naked or minutely woolly, "woolliness" not obscuring fine details of surface wrinkles; soredia present or absent 7
- 7a. Thallus lacking soredia or isidia but may be lobulate (Note: lobules may, however, occasionally appear isidia-like; in this case "isidia" are usually borne singly) 8
- 8a. Lobe margins and upper surface usually not at all lobulate; upper surface naked; medulla white, K- (or occasionally **K+ pale yellow**); apothecia present; over **bark** and **rock** ***N. bellum***
- 8b. Lobe margins and/or upper surface usually lobulate; upper surface naked or minutely woolly; medulla white, K-; apothecia present or absent; generally **over rock** ***N. helveticum*** (see 6b)
- 7b. Thallus sorediate or, if apparently isidiate, then "isidia" densely clustered 9
- 9a. Upper surface yellowish green, more or less net-ridged/reticulate; restricted to old-growth forests; rare ***N. occultum***
- 9b. Upper surface brownish or greyish, plane to weakly wrinkled, but never reticulate; widespread and common ***N. parile***