

*Nephroma arcticum*

M. Kuusinen

*Nephroma* Ach.

NEPHROMATACEAE

Munuaisjäkälet • njurlavar

Thallus foliose, large, loosely attached, cortex present on both the upper and lower surface. Upper surface brown, blue-grey or green, depending on light conditions of the habitat. In shade thalli are usually much paler than in sunny situations. Lower surface pale brown or black, smooth or variably hairy. Apothecia with a brown disc, lecanoroid, developing on the lower side of slightly elongated marginal lobes. Spores 4-celled, long-fusiform, pale brown. Photobiont usually only cyanobacterium (*Nostoc*), sometimes green alga (*Coccomyxa*), but in the latter cases cyanobacteria present in cephalodia. Many species contain triterpenoids: e.g. zeorin, peltidactylin, and dolichorrhizin. Epiphytic, saxicolous or tercolous. Seven species in Finland.

*Nephroma arcticum* (L.) Torss.

Pohjankorvajäkälä • norrlandslav

LC

Syn. *Opisteria arctica* (L.) Vain.

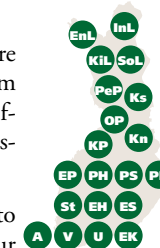
Thallus foliose, thalli can form contiguous, large, loose colonies to almost 1 m wide. Upper surface yellow-green, blue-green or bright green, often glossy. Lower surface dull, margins paler, darker towards the centre. Lobes to 2–5 cm wide, smooth or slightly pitted, tongue-like, margins ascending. Apothecia common, large, 1–3 cm diam. Spores 23–30 × 4–5 µm. Conidiomata rare, at lobe margins. Photobiont green; cyanobacteria in large, bluish cephalodia that are easily visible in moist thalli.

**Chemistry** K<sup>-</sup>, KC<sup>+</sup> yellow, PD<sup>+</sup> orange. Zeorin, nephroarctin, phenarctin, methyl gyrophorate, and usnic acid.

**Habitats** On mosses in *Pinus* forests and in arctic heaths particularly in North Finland. Typical in the *Hylocomium-Myrtilus* type *Picea* forests, but also in humid *Betula* forests at the timberline. In the south mostly on mosses over shady cliffs.

**Distribution** Throughout Finland, rare in South Finland, more common from Middle Finland towards the north, often abundant in Lapland and Koillismaa. – Europe, Asia, North America.

**General** *Nephroma arcticum* is easy to recognise by its yellowish green colour and large size. *Nephroma expallidum* has a darker and duller upper surface, and its lobes are narrower.

*Nephroma arcticum*

V. Heikonen

*Nephroma bellum****Nephroma bellum*** (Spreng.) Tuck.

Silomunuaisjäkäliä • stupalav

NT

**Syn.** *Nephroma laevigatum* auct. (commonly before 1960), *Nephromium subtomentellum* (Nyl.) Gyeln.

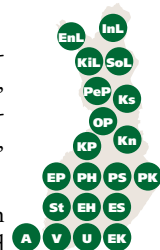
Thallus rosette-forming, to 10 cm diam. Upper surface blue-grey – grey-brown, usually smooth, medulla white. Lower surface darker brown in the centre, paler at margins, very smooth, but sometimes slightly short-tomentose. Lobes to 1 cm wide, partly overlapping, lobules sometimes present at margins. Apothecia very common, to 1 cm diam., their upper surface verrucose or ridged. Spores 15–23 × 4–5 μm. Photobiont cyanobacterium.

**Chemistry** K– or sometimes K+ yellowish, PD–. Triterpenoids, for instance dolichorrhizin, and zeorin.

**Habitats** On trees, particularly on *Salix caprea* and *Populus tremula*, often also on *Juniperus communis* and on *Betula* snags, usually in shady sites. Also on mossy rocks and cliffs.

**Distribution** Throughout Finland. Probably declined during the last decades, but common in Middle and North Finland up to the timberline. – Europe, Asia, North America.

**General** *Nephroma bellum* differs from *N. laevigatum* by its white medulla and negative K reaction. It also resembles *N. parvile*, but the lobes of the latter are sorediate. The southern populations of *N. bellum* are often small and in poor condition.



P. Halonen

***Nephroma expallidum*** (Nyl.) Nyl.

Tunturikorvajäkälä • grön njurlav

LC

**Syn.** *Opisteria expallida* (Nyl.) Vain.

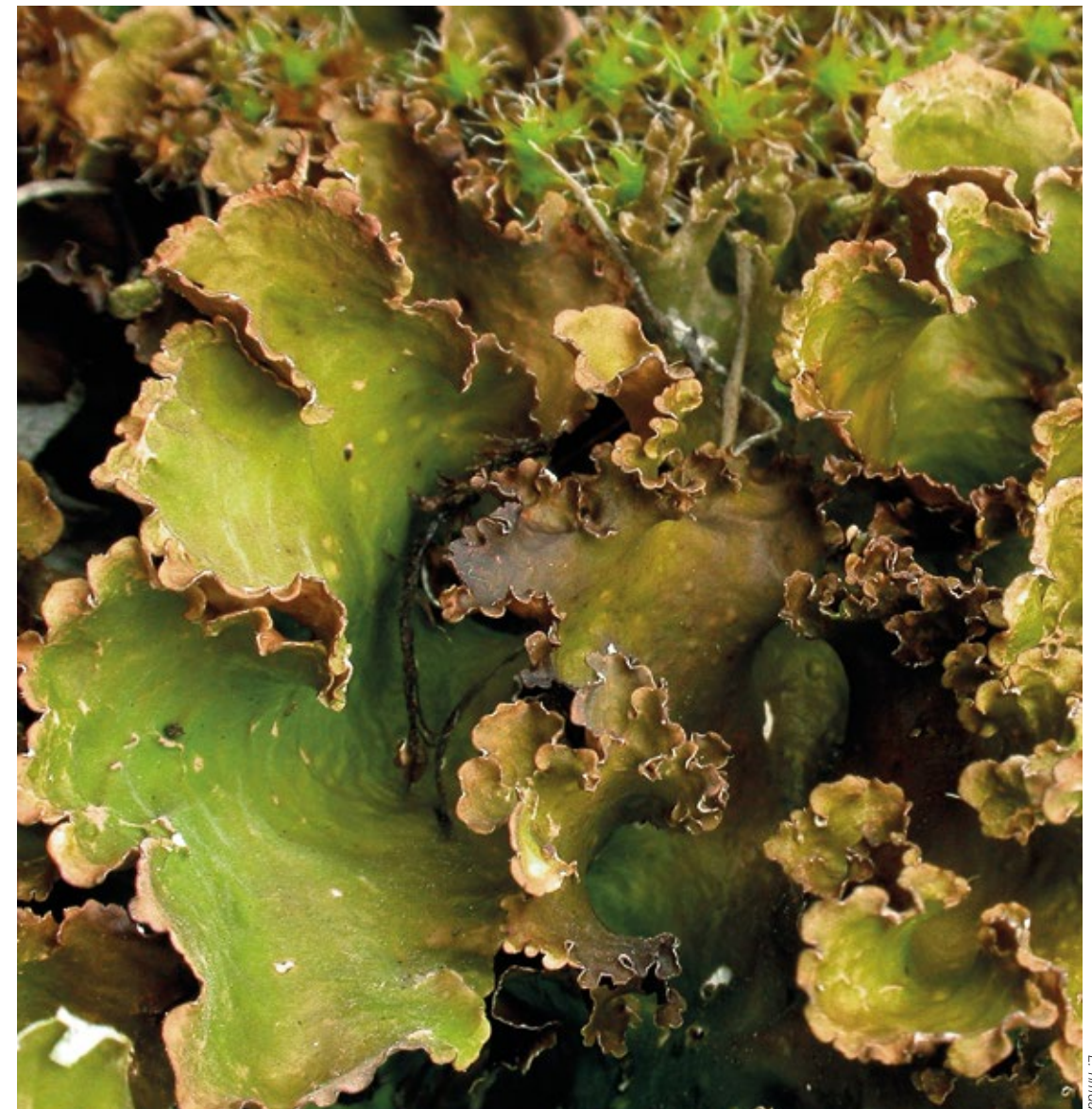
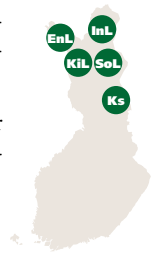
Thallus rosette-forming, to 15 cm diam. Upper surface brownish or bluish green, usually finely verrucose, dull. Lobes to 2 cm wide, margins often crisped and with lobules. Apothecia rare, to 1.5 cm diam. Spores 17–21 × 5–6 μm. Dominant photobiont green, cyanobacteria in cephalodia that are visible as warts on the upper surface.

**Chemistry** K–, PD– or PD+ orange. Triterpenoids, for instances dolichorrhizin and zeorin, and unidentified substances.

**Habitats** Among mosses in arctic and alpine heaths and alpine meadows, in the forest zone the southernmost populations can often be found on village grasslands in Lapland.

**Distribution** In the northernmost Lapland, most common in the fjells. – Europe, Asia, North America.

**General** A partly brownish thallus colour and verrucose, dull upper surface distinguish *N. expallidum* from *N. arcticum*.

*Nephroma expallidum*

E. Timpa

*Nephroma helveticum* Ach.

## Kalliomunuaisjäkäliä

CR

Thallus rosette-forming, to 8 cm diam. Upper surface blue-grey – dark brown, medulla white. Lower surface dark brown or black, densely pubescent or tomentose. Lobes 0.5 cm wide, margins and sometimes also upper surface with phyllidia and isidia. Apothecia fairly common, to 8 mm diam., exciple pectinate and upper surface scabrid, faveolate or pubescent. Spores 21–7 × 6–8 μm. Photobiont cyanobacterium.

**Chemistry** K–, PD–. Triterpenoids, for instance peltidactylin.

**Habitats** On shady cliffs, on rockfaces and among mosses over rock outcrops.

**Distribution** Very rare. Found in only a few places. – Europe (very rare), Asia, North America.

*Nephroma helveticum*

P. Halonen

**General** New records are likely on steep cliffs of East Finland. Isidia, the dark tomentum on the lower surface, and the chemical composition most reliably distinguish *N. helveticum* from its relatives.

*Nephroma laevigatum* Ach.

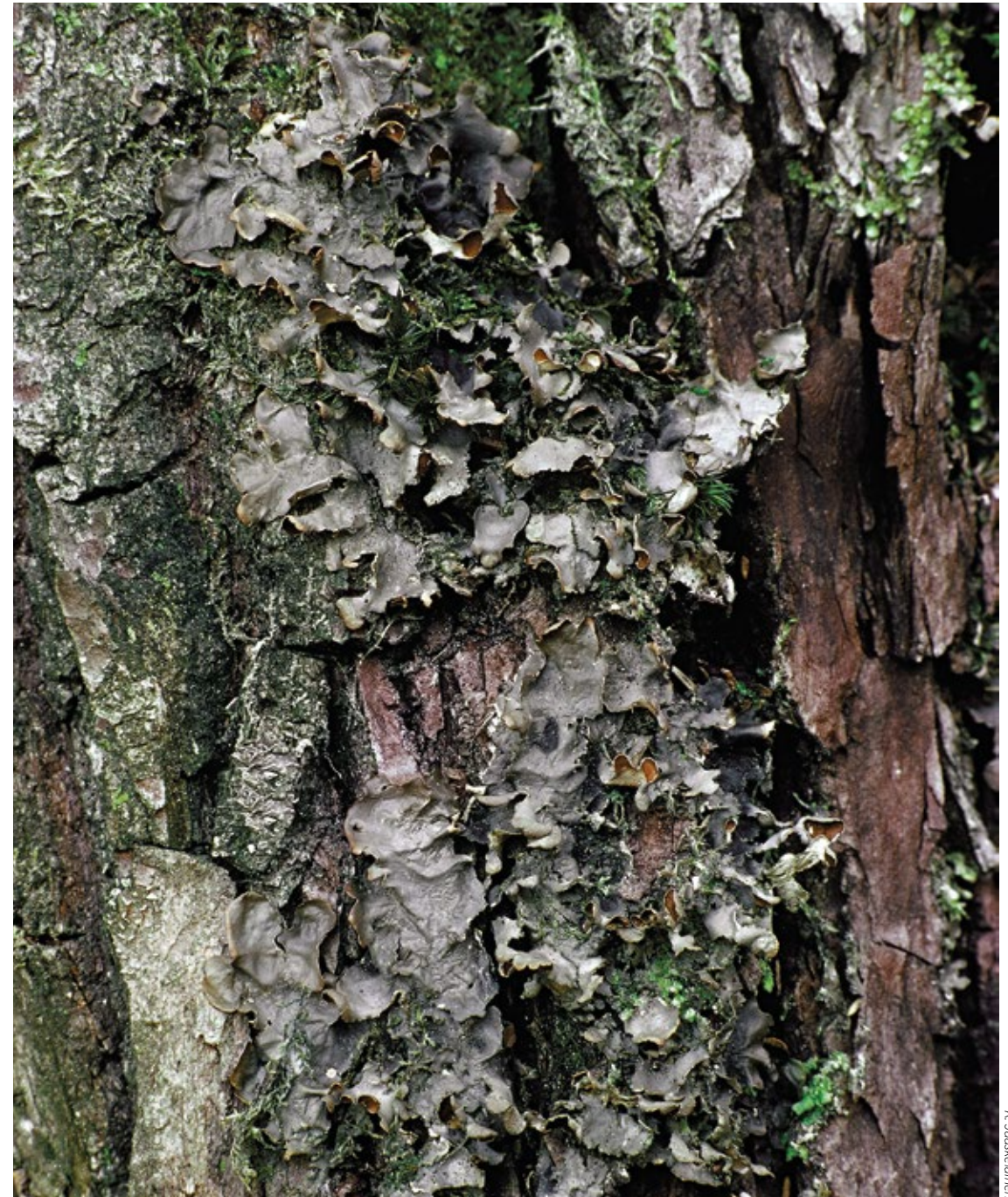
## Lännumunuaisjäkäliä • västlig njurlav

CR

**Syn.** *Nephroma lusitanicum* Schaer.

Thallus rosette-forming, to 15 cm diam. Upper surface blue-grey – grey-brown, smooth, medulla often yellowish. Lower surface pale brown at margins, dark brown or black in the centre. Lobes to 1.5 cm wide, margins sometimes with phyllidia. Apothecia common, to 10 mm diam. Spores 17–20 × 5–7 μm. Conidiomata not common. Photobiont cyanobacterium.

**Chemistry** K+ rapidly – very slowly purple, PD–. Triterpenoids and anthraquinones.

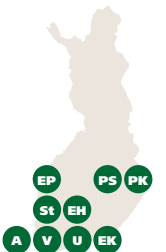
*Nephroma laevigatum*

K. Jäskeläinen

**Habitats** On bark or mosses on bases of old deciduous trees, on rockfaces and mosses over rocks. In shady and sheltered sites.

**Distribution** Here and there in South and Middle Finland, often sparse and populations declining. – Europe, Africa, Asia, North America. Oceanic.

**General** The yellowish colour of the medulla and the purple K reaction distinguish *N. laevigatum* from *N. bellum*.



*Nephroma parile* (Ach.) Ach.

Jauhemunuaisjäkäliä • bårdlav

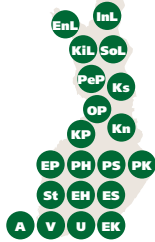
LC

Thallus rosette-forming, to 10 cm diam. Upper surface blue-grey – brown, slightly faveolate, sometimes ridged. Lower surface smooth, sometimes partly pubescent. Lobes to 1 cm wide, soralia present at margins and partly also on the upper surface, soredia sometimes partly corticate and browned. Apothecia rare, upper surface and exciple sorediate. Spores 8–20 × 6–7 μm. Conidiomata rare. Photobiont cyanobacterium.

**Chemistry** K–, PD–. Triterpenoids. Two chemotypes: 1) dolichorrhizin; 2) peltidactylin. Both chemotypes can also contain other substances.

**Habitats** Particularly on bases of old deciduous trees, and among mosses over rocks and rockfaces. Most common in old-growth forests.

**Distribution** Throughout Finland, fairly common, but declined during the past decades, particularly in the south. – Europe, Africa, Asia, North and South America.



**General** Soralia are the best diagnostic character of *N. parile*. They are absent from other Finnish *Nephroma* species. In North Finland, a slightly different form can be found. Its soredia mass is partly heavily corticate, its upper surface is more clearly faveolate and ridged, lower surface is dark-tomentose, and it belongs to the peltidactylin-containing chemotype. This form is known from at least North Norway, Switzerland, Greenland, and Canada, but its taxonomic status is still unclear.

*Nephroma resupinatum* (L.) Ach.

Nukkamunuaisjäkäliä • luddlav

NT

**Syn.** *Nephroma tomentosum* (Hoffm.) Flot.

Thallus rosette-forming, to 10 cm diam. Upper surface blue-grey – grey-brown, medulla white. Lower surface pale, distinctly tomentose, with scattered, whitish papillae. Lobes to 1.5 cm wide, particularly margins but also the upper surface tomentose and sometimes with phyllidia. Apothecia fairly common, 1–1.5 cm diam., upper surface tomentose, scabrid or ridged. Spores 21–24

*Nephroma parile*

K. Jääskeläinen

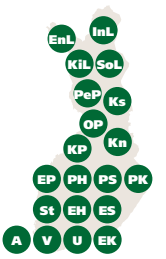
× 4–6 μm. Conidiomata rare, at lobe margins. Photobiont cyanobacterium.

**Chemistry** K–, PD–. Lichen substances absent.

**Habitats** Particularly on bases of deciduous trees, also on mossy rocks and rockfaces. Prefers old-growth forests.

**Distribution** Fairly common throughout Finland, but probably declined during the past decades. – Europe, Asia, North America.

**General** The tomentose upper and lower surfaces, whitish papillae on the lower surface, phyllidia, and the absence of lichen substances distinguish *N. resupinatum* from *N. bellum*. These two species often grow together.

*Nephroma resupinatum*

P. Halonen



*Normandina pulchella*

***Normandina*** Nyl.

VERRUCARIACEAE

**Simpukkajäkälät**

Thallus squamulose or crustose, blue-grey or green. Diffuse-sorediate or soralia on margins and upper surface of the squamules. Perithecia entirely or partially immersed. Spores usually longitudinally 8-celled, rarely somewhat muriform, slightly constricted at the septa, colourless. Conidiomata absent. Photobiont *Trebouxia*. Contain zeorin or lichen substances absent. On mosses or lichens, rarely on bark, in humid sites. Two species in Finland.

***Normandina pulchella*** (Borrer) Nyl.

Suomusimpukkajäkälä • mussellav

VU

**Syn.** *Lauderlindsaya borreri* (Tul.) J. C. David & D. Hawksw.

Thallus squamulose, squamules small, to 5 mm diam., scattered or in colonies, fairly rounded, margins clearly upturned. Upper surface blue-grey or greenish, corticate, with concentric ridges and small soralia. Lower

surface white, ecorticate, slightly tomentose, often with abundant, white rhizines. Soralia often abundant; sometimes soredia cover most of the thallus, but can be absent. Margins commonly with ear-like, rounded lobules. Perithecia rare in European populations, immersed, but visible as bumps on the lower surface. Spores 25–35 × 6–9 μm.

**Chemistry** K–, PD–. Zeorin.

**Habitats** On mosses over moist rockfaces. For instance on the coast of Norway often also on mosses of tree bases and even on bark.

**Distribution** Found only in Kilpisjärvi in Enontekiö, but is expected to occur elsewhere, e.g. along the Gulf of Bothnia. – West Europe, Africa, Asia, Australasia, North and South America. Oceanic, often abundant in the tropics.

**General** *Normandina pulchella* resembles the squamules of *Lichenomphalia hudsoniana*, but the latter are not sorediate, and have a cortex on the lower surface. It was long thought that *N. pulchella* was a sterile, lichenised basidiomycete and that its perithecia were fruiting bodies of a parasite. However, DNA analyses confirmed that both belong to the same species. *Normandina acroglypta*, also found in Finland, is crustose.

E. Tindal

***Ochrolechia*** A. Massal. OCHROLECHIACEAE

**Kermajäkälät** • örnlav

Thallus crustose, cracked, areolate or verrucose, sometimes spiny and appearing fruticose, thin or thick, grey-white or creamy white, often slightly yellowish or greenish. Many species always or usually sorediate and without apothecia. Apothecia lecanoroid, often closed when young; flat, pale or ochre-yellow, often pruinose, exciple thick. Hymenium 150–200 μm, I+ blue, K/I+ blue, paraphyses strongly branched and anastomosing, hypothecium pale or brownish. Asci 2–8-spored, thick-walled. Spores 1-celled, (broadly) ellipsoid, thin-walled, colourless, large. Conidiomata immersed. Conidia cylindrical. Photobiont green (*Trebouxia*). Often contain gyrophoric and variolaric acids, and variably some other lichen substances. Epiphytic, or on rock or soil. 14 species in Finland.

***Ochrolechia alboflavescens*** (Wulfen) Zahlbr.

Petäjänkermajäkälä • halmgul örnlav

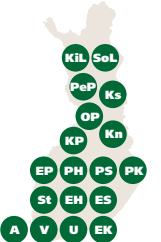
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Thallus verrucose, areolate or cracked, usually thick; pale grey – grey – brown-grey – pale yellowish, prothallus poorly distinguished. Soralia rounded – ellipsoid, crater-like – semiglobose, white, clearly delimited. Apothecia fairly rare, 1–3 mm diam., pruinose. Spores 25–57 × (10)20–38 μm.

**Chemistry** K–, C+ yellow (at least soralia), PD–, UV+ bluish white. Lichesterinic, protolichesterinic, and variolaric acids, and unidentified substances. Epithymenium C+ red. Gyrophoric and lecanoric acids.

**Habitats** On bark of *Picea abies*, *Pinus sylvestris* and *Betula*, rarely on *Quercus robur* or on lignum. In open *Pinus* forests, herb-rich forests, and on trees in mires. Prefers open woodlands.

**Distribution** Fairly common throughout Finland, except for Fjeld Lapland. – Europe, a few records from Africa and Asia.



*Ochrolechia alboflavescens*

J. Parkkila



*Ochrolechia androgyna*

**General** The best diagnostic characters of *O. alboflavescens* are its thick thallus and the presence of licheterinic and protolicheterinic acids (thin-layer chromatography needed). *Ochrolechia turneri* can look similar and also has a yellow C reaction, but it typically grows on deciduous (often broad-leaved) trees, has a thinner thallus, and lacks licheterinic acid. *Ochrolechia microstictoides* is another species with a yellow C reaction, but its thallus is thinner, soralia are irregular and contiguous, and it lacks protolicheterinic acid. *Ochrolechia alboflavescens* can sometimes lack soralia and produce numerous apothecia. This growth form is difficult to distinguish from *O. pallescens* without thin-layer chromatography.

### *Ochrolechia androgyna* (Hoffm.) Arnold

Jauhekermajäkälä • gryinig örnlav

LC

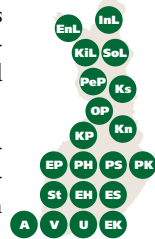
Thallus variable, often verrucose, thick, grey – pale grey, prothallus distinct. Soralia numerous, often large; fairly rounded or irregular in shape, yellowish. Apothecia rare, 2–4 mm diam., pruina absent. Spores (12)25–50 × (12)17–30 μm. Conidiomata common. Conidia 4–6 × 1 μm.

**Chemistry** K–, C+ red, PD–, UV+ bluish white. Gyrophoric acid, lecanoric acid (small amounts), fatty acids, and unidentified substances.

**Habitats** On base trunks and branches of deciduous trees and conifers, on rotten wood and shady, siliceous rocks and on bare or mossy rockfaces.

**Distribution** Common throughout Finland. – Europe, Macaronesia, Africa, Asia, Australia (Tasmania), North America.

**General** The best diagnostic characters of *O. androgyna* are its fairly pale thallus, yellowish and often large soralia, and its lichen substances. A few similar species have recently been distinguished from *O. androgyna*. They can be identified most reliably by their lichen substances. *Ochrolechia mahluensis* grows on bark of conifers and *Betula* in open forests. Its thallus is, however, usually thinner and it lacks fatty acids. The thin morphotypes of *O. androgyna* can also resemble *O. arborea* that grows on trunks and branches of deciduous trees on shorelines, in herb-rich forests, and in open *Pinus* forests. However, the latter has an orange UV reaction.



### *Ochrolechia frigida* (Sw.) Lyngé

Tunturikermajäkälä • nordlig örnlav

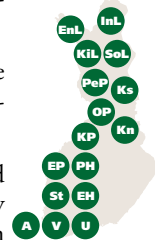
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**Syn.** *Ochrolechia gonatodes* (Ach.) Räsänen, *Ochrolechia lapuënsis* (Vain.) Räsänen

Thallus variable, thin or verrucose, often developing spine-like extensions to 2 cm long, and then thallus appearing fruticose, occasionally thick-verrucose, often fairly thick; white-grey, yellowish grey or slightly red-brown, prothallus often indistinct. Spines often yellowish brown or brown-red. Usually esorediate, but sometimes with fairly abundant white – yellowish soralia. Apothecia common, large, 0.8–5 mm diam., pruina absent. Spores 20–50 × 12–30 μm. Conidiomata not common.

**Chemistry** K–, C+ red, PD–, UV+ pale blue. Gyrophoric acid, sometimes additional lecanoric acid.

**Habitats** On soil in alpine heaths and meadows, particularly in open, windy sites, further south most common on bogs. In the fjells often aggressively growing over other lichens and shrubs, suppressing them. Occasionally on bases of trees and shrubs, and on rocks.



**Distribution** Common in the fjells, rarer further south, but can be common on the vast bogs in Satakunta. – Europe, Asia, Australia (Tasmania), North and South America, Antarctic. Essentially an arctic and subarctic species.

**General** The diagnostic characters of *O. frigida* include a pale thallus often with spine-like extensions, and a smothering growth over low vegetation. The taxonomy of this species is not entirely solved, and particularly the sorediate morphotypes have often been treated as a separate species, *O. lapuënsis*.



*Ochrolechia frigida*



*Ochrolechia frigida*

*Ochrolechia microstictoides* Räsänen

Katajankermajäkälä • tunn örnlav

LC

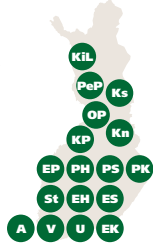
Thallus slightly cracked, thin at margins; white-grey – grey, prothallus often distinct. Soralia numerous, grey-white, rarely yellowish, variable in size and shape, often contiguous in the centre of the thallus to form a continuous cover. Apothecia very rare, 1–2 mm diam., sometimes slightly pruinose. Spores  $45\text{--}52 \times 17\text{--}25 \mu\text{m}$ . Conidiomata absent.

**Chemistry** K–, C+ yellow (at least soralia), PD–, UV+ white. Lichesterinic and variolaric acids, and unidentified substances. Epiphyllum C+ red. Gyrophoric and lecanoric acids.

**Habitats** On bark and lignum of trees. Requires acidic substrata, such as bark of conifers and *Betula*.

**Distribution** Common throughout Finland, except for Fjeld Lapland. – Europe, Turkey.

**General** The best diagnostic characters of *O. microstictoides* include its thin thallus and irregular, often contiguous soralia. It resembles *O. alboflavescens* and the rare *O. turneri*, but the soralia in the latter two are more clearly delimited. Furthermore, these species differ in their lichen substances. *Pblyctis argena* can be morphologically similar to *O. microstictoides*, but has a red K reaction.

*Ochrolechia microstictoides**Ochrolechia pallescens*

H. Eskelinen

*Ochrolechia pallescens* (L.) A. Massal.

Haavankermajäkälä • blek örnlav

DD

Thallus uneven and cracked, fairly thick – thick, brown-grey, yellow-grey or pale grey, soredia absent, prothallus indistinct. Apothecia 1–3 mm diam., sometimes pale or yellow-pruinose. Spores  $(35)45\text{--}70(75) \times (12)25\text{--}40 \mu\text{m}$ .

**Chemistry** K–, C+ yellow (at least the exciple, often also the thallus), PD–, UV–. Substances of the murolic acid group, variolaric acid, sometimes alectoronic acid, and unidentified substances. Exciple cross-section sometimes KC+ pink. Epiphyllum C+ red. Gyrophoric and lecanoric acids.

**Habitats** On bark of old deciduous trees, particularly on *Populus tremula*, but also on *Salix caprea* and *Sorbus aucuparia*. In well-lit situations, preferably in old-growth forests.

**Distribution** In South and Middle Finland, rare and declined. – Europe,



North Africa. Some uncertain records also from India, Australia, and South America.

**General** The diagnostic characters of *O. pallescens* include the esorediate thallus, pruinose apothecia, and its lichen substances. *Ochrolechia alboflavescens* sometimes produces numerous apothecia and no soralia, and in that case thin-layer chromatography is needed in distinguishing it from *O. pallescens*.

*Ochrolechia upsaliensis* (L.) A. Massal.

Kalkkikermajäkälä • uppsalalav

LC

Thallus cracked, coarsely granulose, fairly thick, white-grey – yellow-grey – grey, prothallus distinct. Apothecia usually numerous; yellowish, 0.6–4 mm diam., pruinose. Spores very variable in shape and size,  $(20)40\text{--}75(80) \times (17)25\text{--}35 \mu\text{m}$ .

**Chemistry** K–, C+ yellow, PD–, UV–. Variolaric acid, substances of murolic acid group (small amounts), and unidentified substances.

E. Timofaj

*Ochrolechia upsaliensis*

**Habitats** On plant debris and mosses on soil, particularly in the calcareous areas.

**Distribution** Rare in Kuusamo Region (Oulanka), fairly common in the fjells of Lapland. – Europe, northern parts of Asia, North America.

**General** The best diagnostic characters of *O. upsaliensis* are its yellowish, pruinose apothecia, and the yellow C reaction of the thallus. It resembles *O. frigida*, which is common on soil in Lapland. However, the thallus of the latter often develops spines, its apothecia are epruinose, and its C reaction is red.



***Ophioparma* Norman** OPHIOPARMACEAE  
**Rokkojäkäliät** • vindlavar

Thallus small-squamulose, areolate or cracked, pale grey or dark grey, ochre-colour, orange-brown or yellow. Apothecia often lecanoroid, rounded or irregular in shape, bright red, exciple distinct or indistinct. Paraphyses rarely branched, slightly swollen at tips. Asci clavate. Spores multicellular, fusiform, colourless, often spirally arranged in asci. Conidiomata immersed. Conidia bacilliform, colourless. Photobiont green (*Trebouxia*). Contain depsides, aliphatic acids, and haemoventosin, sometimes depsidones and terpenes. On siliceous rock outcrops. Two species in Finland.

*Ophioparma ventosa*

***Ophioparma ventosa* (L.) Norman**

**Tuulirokkojäkäliä** • vindlav

LC

**Syn.** *Haematomma ventosum* (L.) A. Massal.,  
*Haematomma lapponicum* var. *violascens* Räsänen

Thallus coarsely granulose, verrucose, uneven, thick, grey – yellow-grey, forming large patches. Apothecia common, 1–5 mm diam., often irregular in shape; fairly rounded – angular, red – red-brown, exciple pale when young. Epithymenium, hymenium, and hypothecium unevenly orange-red, hymenium 60–70 µm. Spores 4–8-celled, curved, (30)40–60 × 3–4.5(6) µm. Conidiomata common, wall colourless, ostiole black-green. Conidia 7–10 × 1 µm.

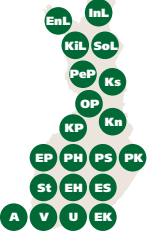
**Chemistry** K– or K+ yellow, KC+ yellow (medulla), PD– or PD+ orange, UV+ bluish white. Three most common chemotypes: 1) thamnolic, divaricatic, and usnic acids; 2) hypothamnolic, divaricatic, and usnic acids; 3) divaricatic and usnic acids. These chemotypes can have addi-

tional atranorin and psoromic acid. If the amount of usnic acid is low, thalli are grey in colour. The thamnolic acid containing chemotype is the most common in Finland and almost the only one in the southern parts of the country. Epithymenium K+ indigo-blue, becoming unevenly violet-blue. Hymenium and hypothecium K+ blue, becoming strongly orange-red. Haemoventosin.

**Habitats** On siliceous rock outcrops and rocks, often in windy sites.

**Distribution** Throughout Finland, fairly common on the south coast, fairly rare inland, common in the north, particularly in the fjells. – Europe, Asia, North and South America.

**General** *Ophioparma ventosa* is easy to recognize by its rough surface and red apothecia. It resembles *O. lapponica*, but the latter has smaller spores (12–21 × 3–5 µm) and always positive K and PD reactions.





*Orphniospora* Körb.

FUSCIDEACEAE

## Ruutujäkälät

Thallus areolate, grey or brown-black. Apothecia lecidoid, black, true exciple present in young apothecia, gradually disappearing. Paraphyses unbranched or branched, often indistinct, hypothecium dark brown. Asci clavate. Spores 1-celled (but sometimes with an indistinct septum), thick-walled, ellipsoid, colourless or dark brown. Conidiomata immersed. Conidia bacilliform. Photobiont green. Lichen substances absent. On siliceous rock outcrops. The spores of *Rhizocarpon* are 2-celled or multicellular, and those of *Buellia* 2–4-celled. Two species in Finland.

*Orphniospora moriopsis* (A. Massal.) D.

Hawksw.

Mustaruutujäkälä • svart rutlav

LC

Syn. *Buellia atrata* (Sm.) Anzi

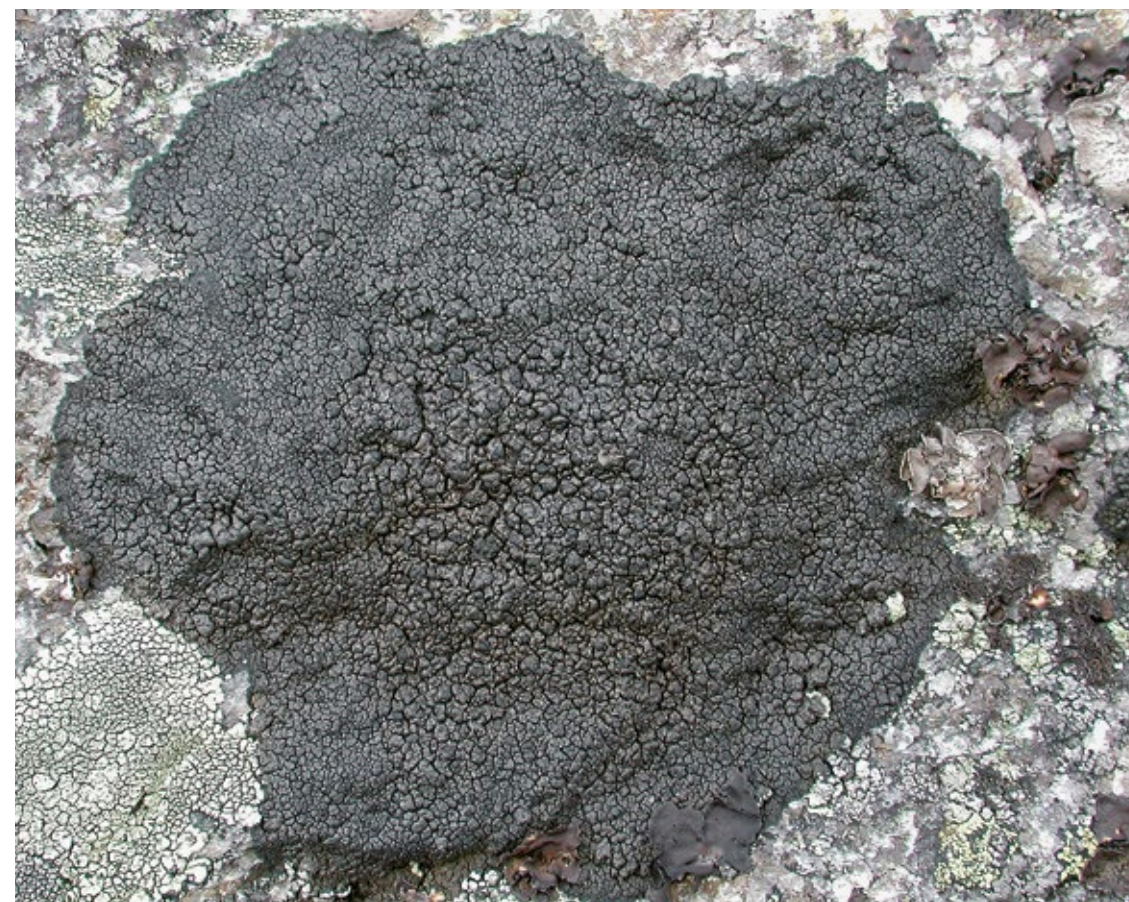
Thallus brown-black, areoles 0.3–1 mm diam. Apothecia common, 0.5–1(1.2) mm diam., at first immersed, later mostly sessile. Epihymenium olive-green, hymenium 80–110 µm. Spores dark brown, 11–18 × 6–10 µm. Conidia 3–4 × 1 µm.

**Chemistry** Medulla I+ blue-violet. Epihymenium K+ green, N+ red.

**Habitats** On siliceous rock outcrops, usually in exposed sites.

**Distribution** Probably throughout Finland, possibly fairly common but rarely observed. – Europe, Asia, Australia, North America.

**General** *Orphniospora moriopsis* can resemble *O. morioides*, but the latter has a grey or blue-grey thallus and its epihymenium has a violet K reaction.

*Orphniospora moriopsis*

E. Timdal

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# Checklist of the lichens of Finland

This checklist includes all the lichens and lichenicolous species known in Finland, plus some related non-lichenized species, and some 'lichen-like' species.

The first list was published by Vitikainen et al. (1997) but it is outdated. Additionally, we provide habitat and substrate data, which were absent from the first list. The provided data is essentially based on herbarium specimens housed in H, TUR, and OULU, but also on literature and field observations. Please note, that this kind of a checklist is never final, it constantly changes while new data is accumulated.

Altogether 1952 species, subspecies, and varieties are included. The scientific name and authors, the vernacular Finnish and Swedish names (when available), and selected synonyms are given. Furthermore, the distribution (by biogeographical provinces) and habitats are listed for each taxon.

\* = a lichenicolous, non-lichenized fungus;

+ = a saprophytic non-lichenized fungus;

(\*) = sometimes lichenized, but always a lichenicolous fungus;

(+) = sometimes lichenized, but always a saprophytic fungus.

If more than three authors exist for a taxon name, only the first one is given. If a question mark precedes a synonym, the status of the name as a synonym has not been confirmed.

The abbreviations of the biogeographical provinces of Finland are listed in Table 1, on page 11; an uncertain record is indicated with a question mark. It should be noted that the distribution of some lichens is poorly known, and therefore the list is not necessarily complete.

The habitats are given both as abbreviations (symbols) and in words. The first symbol tells the primary habitat of the species, while the possible following ones are regarded as secondary. The abbreviations follow the Red List of Finnish Species (Rassi et al. 2010), thus deriving from the Finnish language.

## Abbreviations

**Ih** = wooded pastures and pollard meadows, **Ij** = roadsides, railway embankments etc., **In** = seminatural dry grasslands, **Ip** = parks, yards and gardens, **Ir** = buildings (and constructions).

**K** = rock outcrops (incl. rocks and boulders), **Kk** = calcareous rock outcrops and limestone quarries, bare calcareous soil, **Kl** = caves and crevices, **Ks** = serpentine (ultramafic) rock outcrops.

**M** = forests and woodlands, **Mk** = heath forests, **Mkk** = sub-xeric, xeric and barren heath forests, **Mktv** = old-growth mesic and herb-rich heath forests, **Mkv** = old-growth heath forests, **Ml** = herb-rich forests, **Mlt** = dry and mesic herb-rich forests, **Mlv** = old-growth herb-rich forests, **Mp** = burnt forest areas and other young stages of natural succession, **Mv** = old-growth forests.

**R** = shores, **Ri** = shores of the Baltic Sea, **Rih** = Baltic sand beaches, **Rik** = Baltic rocky shores, **Rin** = Baltic coastal meadows, **Ris** = Baltic gravel, shingle and boulder shores, **Rj** = lakeshores and riverbanks, **Rjh** = sandy lakeshores and riverbanks, **Rjk** = inland rocky shores, **Rjm** = inland alluvial forests, **Rjs** = inland gravel, shingle and boulder shores, **Rjt** = inland open alluvial shores, **Rk** = shore rock outcrops.

**S** = mires (peatlands), **Sk** = *Picea* mires (swamp forests), **Skr** = eutrophic and mesotrophic *Picea* mires, **Sn** = treeless fens, **Sr** = *Pinus* mires (bog forests), **Srk** = ombrotrophic and oligotrophic *Pinus* mires (bogs).

**T** = alpine heaths and meadows, **Tk** = alpine heaths, **Tl** = alpine rock outcrops and boulder fields.

**Vj** = rivers, **Vk** = rapids and water-falls, **Vp** = brooks.

| Scientific names with authors, and Finnish and Swedish names when available                  | Selected synonyms  | Biogeogr. provinces                  | Habitats   |
|--|--|--------------------------------------|--|
| * <i>Abrothallus caerulescens</i> I. Kotte   |  | V, EH                                | K; on thalli and apothecia of <i>Xanthoparmelia</i>  |
| * <i>Abrothallus cetrariae</i> I. Kotte  |  | V, PS, PK, Ks                        | M, K; on thalli of <i>Platismatia glauca</i>   |
| * <i>Abrothallus parmeliarum</i> (Sommerf.) Arnold   | <i>Abrothallus bertianus</i> auct. scand., <i>Abrothallus smithii</i> Tul., <i>Abrothallus tulasnei</i> M. S. Cole & D. Hawksw., <i>Vouauxiomyces santessonii</i> D. Hawksw. | A–U, St–ES, PS, PK, OP, Ks, SoL, InL | K, M; on <i>Cetraria</i> (s. lato), <i>Parmelia</i> (s. lato), and on <i>Platismatia glauca</i>                                |
| * <i>Abrothallus peyritschii</i> (Stein) I. Kotte  | <i>Abrothallus parmeliarum</i> var. <i>peyritschii</i> Stein   | A, V, EH                             | Kk, M; on <i>Vulpicida pinastri</i>  |
| * <i>Abrothallus prodiens</i> (Harm.) Diederich & Hafellner                                  | <i>Abrothallus parmeliarum</i> f. <i>prodiens</i> (Harm.) Vouaux   | PS                                   | M; on <i>Hypogymnia physodes</i>   |
| * <i>Abrothallus suecicus</i> (Kirschst.) Nordin   | <i>Leciographa suecica</i> Kirschst., <i>Vouauxiomyces ramalinae</i> (Nordin) D. Hawksw.   | V, U, PeP, Ks                        | M; on thalli and apothecia of <i>Ramalina calicaris</i> , <i>R. dilacerata</i> , <i>R. fastigiata</i> , and <i>R. fraxinea</i> |
| <i>Absconditella celata</i> Döbberler & Poelt, taigakaihojäkälä, nordlig kryptolav           |  | V, EP, PH, PK                        | S, M; on dead <i>Sphagnum</i> and on wood, mainly on mires   |
| <i>Absconditella delutula</i> (Nyl.) Coppins & H. Killias, kalvaskaihojäkälä, blek kryptolav | <i>Absconditella modesta</i> (Hegetschw. ex Stizenb.) Vězda  | V                                    | Ml, Rjk; on rotten wood and on rocks in shady sites  |
| <i>Absconditella lignicola</i> Vězda & Pišút, liekokaihojäkälä, vedkryptolav                 |  | V, U, EH, PK, Kn, Ks                 | Mkv, Mk; on conifer lignum in moist sites, usually on fallen trunks in old-growth forests                                      |
| <i>Absconditella sphagnum</i> Vězda & Poelt, rahkakaihojäkälä, mosskryptolav                 |  | V, U, EH, PK, EnL                    | S; on dead <i>Sphagnum</i> on peat hummocks  |
| <i>Acarospora admissa</i> (Nyl.) Kullh., tummakuoppajäkälä                                   | <i>Lecanora admissa</i> Nyl.   | EH, PeP                              | K; on siliceous rocks and rock outcrops  |
| <i>Acarospora anomala</i> H. Magn., tupakuoppajäkälä, träspricklav                           |  | V, St, EP, PS, PeP                   | Ir; on old wooden buildings  |
| <i>Acarospora badiofusca</i> (Nyl.) Th. Fr.  | <i>Acarospora umensis</i> H. Magn., <i>Lecanora badiofusca</i> Nyl.  | InL                                  | K; on siliceous rock, often in areas with also calcareous rock   |
| <i>Acarospora castaneocarpa</i> M. Westb. & Wedin  |  | V                                    | Kk; on calcareous rock outcrops  |
| <i>Acarospora discreta</i> (Ach.) Arnold   | <i>Acarospora durietzii</i> H. Magn.   | EP, PeP, Ks                          | K; on siliceous rocks and rock outcrops  |
| <i>Acarospora fennica</i> H. Magn.   |  | V                                    | Ir; on concrete  |
| <i>Acarospora fuscata</i> (Nyl.) Arnold, ruskokuoppajäkälä, brun spricklav                   | <i>Acarospora squamulosa</i> (Schrad.) Trevis., <i>Trimmatothele glacialis</i> Nilsson   | A–OP, Ks, KiL, EnL, InL              | K; on fairly horizontal surfaces of siliceous rock outcrops, rarely on lignum  |
| <i>Acarospora glaucocarpa</i> (Ach.) Körb., kalkkikuoppajäkälä, kalkspricklav                | <i>Parmelia glaucocarpa</i> Ach.   | V–ES, PS–EnL                         | Kk, Ir; on calcareous rock outcrops, in limestone quarries, and on concrete  |
| <i>Acarospora impressula</i> Th. Fr., pistekuoppajäkälä                                      |  | V                                    | K; on slightly acidic, siliceous rock outcrops   |
| <i>Acarospora macrospora</i> (Hepp) A. Massal. ex Bagl., isokuoppajäkälä                     | <i>Acarospora squamulosa</i> sensu Th. Fr.   | V, PK, Ks, EnL                       | Kk; on calcareous rock outcrops, prefers exposed sites   |
| <i>Acarospora moenium</i> (Vain.) Räsänen, muurikuoppajäkälä, murstenslav                    | <i>Aspicilia excavata</i> G. Thor & Timdal, <i>Aspicilia moenium</i> (Vain.) G. Thor & Timdal, <i>Endocarpon moenium</i> Vain.   | V–ES, EP, PS–KP, PeP, Ks, EnL        | Ir, Kk; on concrete, cement, and on vertical surfaces of calcareous rock outcrops, in exposed sites                            |
| <i>Acarospora nitrophila</i> H. Magn.  | <i>Acarospora aequatula</i> H. Magn., <i>Acarospora normanii</i> H. Magn., <i>Acarospora praeruptorum</i> H. Magn.   | V, U                                 | Rik; on siliceous rock surfaces on coastal rock outcrops, in nitrogen-rich sites   |
| <i>Acarospora oligospora</i> (Nyl.) Arnold, suomukuoppajäkälä                                | <i>Acarospora glebosa</i> Körb.  | EH                                   | K; on siliceous rocks close to the ground  |
| <i>Acarospora peliscypha</i> (Wahlenb.) Th. Fr., rosokuoppajäkälä, rynkspricklav             | <i>Parmelia peliscypha</i> Wahlenb.  | V, U, St–PH, OP, EnL, InL            | K; on siliceous rock outcrops, nitrophilous, benefits from bird manure   |
| <i>Acarospora rhizobola</i> (Nyl.) Alstrup   | <i>Lecanora glaucocarpa</i> var. <i>endocarpoides</i> Vain., <i>Lecidea rhizobola</i> Nyl.   | PK, Ks                               | Kk; on calcareous soil   |
| <i>Acarospora rugulosa</i> Körb., kastanjakuoppajäkälä                                       | <i>Acarospora chalcophila</i> H. Magn., <i>Acarospora hellbomii</i> H. Magn., <i>Acarospora montana</i> H. Magn., <i>Polysporinopsis rugulosa</i> (Körb.) Vězda              | U, St                                | K; on iron-rich or copper-rich rock outcrops   |
| <i>Acarospora sinopica</i> (Wahlenb.) Körb., ruostekuoppajäkälä, rostspricklav               | <i>Polysporinopsis sinopica</i> (Wahlenb.) Vězda   | A–EP, PS–KP, OP, PeP, SoL, EnL       | K; on iron-rich siliceous rock outcrops  |
| <i>Acarospora veronensis</i> A. Massal., pikkukuoppajäkälä, liten brunspricklav              |  | A–EK, EH–EP, PS, PeP, KiL            | K; on siliceous rock surfaces, rarely on lignum, nitrophilous  |
| <i>Acarospora versicolor</i> Bagl. & Carestia, kalvaskuoppajäkälä                            |  | V                                    | Kk; on a calcareous rockface   |