

## Report of a lichenological field meeting in Luxembourg

by

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**Abstract:** The Dutch Bryological and Lichenological Society spring field meeting of 1992 was held in the Grand Duchy of Luxembourg, based at Berdorf. 336 taxa of lichens and 12 of lichenicolous fungi have been recorded. The following new combination is proposed: *Lecania naegelii* (Hepp) Diederich & v. d. Boom. *Lepraria crassissima* (Hue) Lettau is shown to represent a distinct species, not a synonym of *L. incana*. *Enterographa crassa*, *Lecanora leptyroides* and *Roselliniopsis tropica*, previously published from Luxembourg, do not seem to occur in this country, the corresponding specimens belonging to *E. huichinsiae*, *L. subcarpineae* and *R. tartaricola*. The name *Lecanora subcarpineae* Szatala should be used in the future for *L. nemoralis* auct.

The following taxa are new for Luxembourg: *Anisomeridium nyssaegenum*, *Arthonia punctiformis*, *Arthopyrenia punctiformis*, *Aspicilia aquatica*, *A. caesiocinerea*, *Bacidia fuscoviridis*, *Buellia aethalea*, *Caloplaca chlorina*, *C. decipiens*, *C. flavovirescens*, *C. subpallida*, *C. teicholyta*, *C. vitellinula*, *Candelariella aurella*, *C. medians*, *Catillaria atomarioides*, *C. chalybeia*, *Cladonia borealis*, *C. strepsilis*, *Cresponea premnea* var. *saxicola*, *Diplotomma ambiguum*, *D. dispersum*, *Dirina massiliensis* f. *sorediata*, *Endocarpon pallidum*, *Gyalecta flotowii*, *Lecania suavis*, *Lecanora achariana*, *L. crenulata*, *L. gangaleoides*, *L. orosthea*, *L. swartzii*, *Lecidea pycnocarpa*, *Lecidella scabra*, *L. stigmatea*, *Lempholemma polyanthes*, *Leptogium teretiusculum*, *Lichenostigma elongata*, *Macentina stigonemoides*, *Melanelia disjuncta*, *Micarea curvata*, *M. hedlundii*, *Neofuscelia loxodes*, *Omphalina hudsoniana*, *Parmeliella triptophylla*, *Pharcidia coniodes*, *Phlyctis agelaea*, *Protoparmelia badia*, *Psilolechia clavulifera*, *Rhizocarpon badioatrum*, *R. geminatum*, *Rinodina gennarii*, *R. interpolata*, *R. oxydata*, *Sarcogyne regularis*, *Schismatomma umbrinum*, *Scoliciosporum gallurae*, *Staurothele frustulenta*, *Strangospora moriformis*, *Strigula jamesii*, *Trapelia obtegens*, *Usnea hirta*, *Verrucaria margacea* and *V. viridula*.

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## Introduction

From 30 April to 3 May 1992 the Dutch Bryological and Lichenological Society organized a field meeting in Luxembourg, based in Berdorf (Gutland). Among the participants were seven lichen enthusiasts from the Netherlands and one, Paul Diederich, from Luxembourg.

The country has rarely had such a large accumulation of lichenological experience on its territory, and a considerable increase in knowledge of the Luxembourg lichen flora was to be expected. As the epiphytic lichens are well known in Luxembourg (Wagner-Schaber 1987, Diederich 1989, 1990), the party concentrated on other habitats. Several excursions were made to the sandstone area near Berdorf and to schistose rocks in the Oesling (Luxembourg part of the Ardennes).

## The excursions

### 30 April 1992

The first day we visited several interesting sites near Berdorf.

The Aesbech valley, a wooded valley with mainly *Carpinus*, *Fagus* and *Quercus* trees, is an excellent site for epiphytic lichens like *Bacidia viridifarinos*, *Lecanactis abietina*, *Mycobilimbia sabuletorum*, *Opegrapha vermicellifera* and *Schismatomma decolorans* on *Quercus*, and *Mycoblastus sterilis*, *Pertusaria hemisphaerica*, *P. hymenea* and *Pyrenula nitida* on *Fagus*. Steep shaded acid sandstone rocks (they contain small amounts of calcium!) are mainly covered with leprose lichens: *Caloplaca chrysodeta*, *Lepraria crassissima*, *L. incana*, *L. lesdainii* (a much overlooked species that has recently been recognized from the Benelux by Kümmerling 1993) and *Leproloma membranaceum*. Shaded rocks are often covered with *Cystocoleus ebeneus* and *Racodium rupestre*. *Veizdaea aestivalis* occurred on mosses over concrete on a boulder.

The first locality visited in the afternoon was a small parking-lot with *Tilia* near the road in the Black Ernztal valley. The most important finds were *Arthothelium ruanum* (only one Luxembourg record mentioned by Diederich 1989), *Caloplaca obscurella* with apothecia and *Lecidella elaeochroma* f. *soralifera*.

On a wall near the camping site at Berdorf we found *Leproloma vouauxii* and *Lempholemma polyanthes*. Many collections were made on trees and wood in an orchard near the camping, the most interesting of which are *Lecanora albescens*, *L. hagenii*, *L. umbrina* and *L. varia* and *Strangospora moriformis*, all on decorticated wood.

Late in the afternoon Paul Diederich arrived and we visited the sites 'Binzelttschloeff' and 'Predigtstull' with large sandstone rocks. On *Fagus* some interesting lichens were found like *Tephromela grumosa* with apothecia, *Buellia disciformis*, *Enterographa hutchinsiae*, *Lecania naegelii* and *Phlyctis agelaea* (first record of this species from Luxembourg). On the sandstone rocks we discovered *Sphaerophorus melanocarpus*, *Micarea botryoides* and *M. hedlundii*, on slightly sloping well-lit rocks *Lepraria caesiocalba*, *Melanelia disjuncta* and on shaded parts *Lecanora swartzii*.

1 May 1992

Calcareous sandstone outcrops and boulders are locally present in the south-east of Luxembourg, mainly near the Mosel river. We visited two such localities, near Manternach and near Grevenmacher.

The examination of a sloping wood with sandstone outcrops near Manternach did not show a great diversity of species. We found, however, a well developed colony of *Leptogium teretiussculum* on a shaded vertical calcareous rock face, without associated species. In the same locality, we collected *Lecania cuprea*, already known from another locality in the area of Echternach (v. d. Boom 1992). The most interesting epiphytic lichen of this locality is *Anisomeridium nyssaegenum*, previously unknown in Luxembourg.

The afternoon was spent near Berdorf, in the wooded valley of the Haupeschaach. The dominating steep sandstone outcrops which are nearly always shaded, proved unexpectedly rich. An interesting community was found with *Dirina massiliensis* f. *sorediata*, *Haematomma ochroleucum* var. *ochroleucum* (fertile), *Lecanora gangaleoides*, *Microcalicium arenarium* on *Psilolechia lucida* and *Opegrapha mougeotii*. The trunks of *Acer*, *Fagus* and *Quercus* were colonized by very interesting lichens like *Enterographa hutchinsiae*, *Halecania viridescens*, *Micarea pycnidiphora*, *Opegrapha viridis*, *Porina leptalea* and *Scoliciosporum pruinosum*.

In the early evening, we investigated the wall along the Berdorf churchyard, and a range of characteristic acidic and calcicolous lichens were found, including a. o. *Caloplaca variabilis*, *Collema crispum*, *Lasallia pustulata*, *Lecania inundata*, *Leptogium schraderi*, *Micarea denigrata* (usually collected on wood and bark), *Neofuscelia loxodes*, *N. verruculifera* (the latter two were growing close together in extensive patches on horizontal sandstone), *Toninia aromatica*, *Trapelia involuta* and *T. obtegens*.

2 May 1992

This day we visited several localities in the Oesling (the Luxembourg part of the Ardennes), where numerous siliceous lichens have been observed, mainly on schists.

Our first excursion of this day brought us to the crossing of road N15 and the road to Esch-sur-Sûre, where we studied shaded schistose rock-faces and old stairs of concrete near the tunnel. Underhangs and sheltered faces not directly wetted by the rain supported a distinctive community with a number of species known from similar ecological sites in Luxembourg and Belgium, e. g. *Caloplaca subpallida*, *Lecanora orosthea*, *Micarea lithinella*, *Opegrapha lithyrga*, *Pertusaria lactea* and *Rinodina oxydata*. Species on mosses overgrowing concrete were *Agonimia tristicula*, *Leptogium gelatinosum* and *L. lichenoides*. Another interesting site was the hill above the tunnel. *Quercus* trees, shaded rock-faces and exposed sloping rocks presented well developed lichen communities and moss carpets with luxuriant specimens of *Cladonia*, subgen. *Cladina*, such as *C. arbuscula*, *C. ciliata*, *C. portentosa* and *C. rangiferina*. On small *Quercus* trees we recorded a. o. *Halecania viridescens*, *Scoliciosporum pruinosum* and *Sphaerophorus globosus*, on exposed sloping schist *Rhizocarpon badioatrum* and *Xanthoparmelia mougeotii*.

In the afternoon we investigated the lichens of the area around the Moulin de Bignonville. Big trees of *Quercus*, *Fagus*, *Carpinus* and *Fraxinus*, but also *Sambucus* showed a varied epiphytic cover of mainly crustose lichens, including *Anisomeridium nyssaegenum*, *Bacidia rubella*, *Ochrolechia subviridis*, *Pertusaria pupillaris* and *Rinodina griseosoralifera*. Roadside trees such as *Betula* and *Populus* near a stream yielded a. o. *Arthonia didyma*, *Fuscidea lighfootii*, *Lecania cyrtella*, *Macentina stigonemoides*, *Pachyphiale fagicola* and *Scoliciosporum gallurae*. Terricolous lichens over schists included *Cladonia coccifera*, *C. gracilis*, *C. grayi*, *C. mitis*, *C. strepsilis*, *C. ramulosa* and *C. squamosa*. The aquatic vegetation of the river Sûre near the hotel offered us spectacular discoveries after an elaborate examination. *Lecanora achariana* was growing on the horizontal surface of a boulder in the stream, associated with *Aspicilia aquatilis*, *Caloplaca subpallida*, *Candelariella vitellina*, *Catillaria atomarioides*, *Lecanora muralis* and *Rinodina oxydata*. *L. achariana* is a suboceanic species, ranging from southern Sweden and Finland to the north of Portugal and is rare in SW Germany. Much less obvious than *L. achariana* was *Endocarpon pallidum*, on the horizontal surface of another boulder but without associated species. Sheltered shaded rock-faces of shale or schist near the road offered us a wide range of lichen species with e. g. *Aspicilia caesiocinerea*, *Lasallia pustulata*, *Lecidea fuscoatra*, *Lepraria caesioalba*, *Melanella disjuncta*, *Micarea peliocarpa*, *Rhizocarpon* div. spp. and *Sphinctrina leucopoda* on *Diploschistes scruposus* (once mentioned before by Diederich 1986).

While returning to The Netherlands, the first author investigated some walls of churches and churchyards in the north of Luxembourg and collected *Lecania suavis* which was growing in abundance on mortar on the N wall of the church of Wilwerdange. *L. suavis* has been recorded previously only once in the Benelux, on limestone outcrop near Durbuy (v. d. Boom 1992). Other interesting discoveries were *Diplotomma dispersum*, *Staurothele frustulenta* and *Verrucaria viridula*.

### 3 May 1992

Most of the members had left the meeting this fourth and last day of the excursion, and the observations of this day were made exclusively by the second author. He went back to the wooded gorge of the Aesbaech near Berdorf and to the Weerschrummschloeff (close to the Predigtstuhl), two places visited already the first day. Several important discoveries were made: *Gyalecia flotowii*, a corticolous lichen with *Trentepholia* algae and submuriform spores (first record of this species for Luxembourg), *Parmeliella triptophylla*, previously known from two Belgian records (one recent, Sérusiaux & al. 1985), but unknown in Luxembourg before, *Cresponea premnea* var. *saxicola*, *Schismatomma umbrinum*, *Strigula jamesii*. Other records of interest are *Bacidia biatorina*, with a thallus very similar to *B. rubella*, but differing in the chemistry (the thallus of *B. rubella* contains atranorin which is lacking in *B. biatorina*), from acid rock, *Micarea botryoides* and *Porina leptalea*.

In the late afternoon, on the way back to The Netherlands, the ruins of the castle of Brandenburg were visited. *Caloplaca vitellinula* found on rocks is probably an overlooked species: it is common in The Netherlands (Brand & al. 1988) were it is also found on trees.

## New or interesting lichens and lichenicolous fungi for Luxembourg

Notes: Numbers following the collector's names refer to specimens kept in their private herbaria, unless otherwise indicated. For each specimen we give the geographical coordinates in the IFBL grid (squares of 4 x 4 km<sup>2</sup>) and in the UTM grid (squares of 5 x 5 km<sup>2</sup>). For some species we add specimens not collected during the excursion, and kept in the private herbaria of the authors or in LG or LUX.

### **Anisomeridium nyssaegenum (Ellis & Everh.) R. C. Harris**

Gutland: 1 km E of Manternach, N of road C.R. 134, S exp. slope (L9.43/LA.15.10), 1.5.1992, on *Acer campestre*, Aptroot 28732 & Diederich 4786.

Oesling: 2 km N of Bigonville, Moulin de Bigonville, NW of Hotel, N and S slope (K7.47/GR.00.25), 2.5.1992, on *Sambucus*, van den Boom 12408; 5 km N of Diekirch, 1 km W of Brandenbourg, valley of Bleses, marsh near brook (K8.35/KA.90.30), 3.5.1992, field observation.

New for Luxembourg.

### **Arthonia punctiformis Ach.**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, at shore of Sûre (K7.47/GR.00.25), on *Alnus* twigs, 2.5.1992, Brand 27222.

Belgium: Prov. Luxembourg, 12 km SSW of La Roche, 2 km S of Tenneville, St. Ode (J7.42/FR.75.45), on twigs of *Acer* and *Fagus*, 29.4.1990, Brand 23157.

New for Luxembourg.

### **Arthopyrenia punctiformis (Pers.) Massal.**

Gutland: 2 km SW of Grevenmacher, SE slope (L9.53/LA.10.00), 1.5.1992, on *Corylus*, Aptroot 28743 & Diederich 4785.

This species has been mentioned by Koltz (1897: 313) as being common in Luxembourg, but this observation should be regarded as questionable.

New for Luxembourg.

### **Aspicilia aquatica Körb.**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, E of Hotel, on horizontal boulders in the stream (K7.47/GR.00.25), 2.5.1992, van den Boom 12443 & Brand 27219.

This species is very similar to *A. caesiocinerea*. It is distinguished by the thallus consisting of more flattened areolae, by the apothecia which are erumpent and have a distinctly constricted base at maturity, and by its aquatic habitat.

New for Luxembourg.

### **Aspicilia caesiocinerea (Nyl. ex Malbr.) Arnold**

Oesling: 1 km E of Esch-sur-Sûre, near tunnel and road N15 (K8.32/GR.10.30), 2.5.1992, Aptroot 28882, 28904; 2 km N of Bigonville, Moulin de Bigonville, NW of Hotel, N and S slope (K7.47/GR.00.25), 2.5.1992, Spier 3272; *ibid.*, 1.1.1994, Diederich 7036; Bockholz-lès-Hosingen, vallon du Lellgerbaach (K8.14/KA.85.40), on schists, 11.10.1986, Diederich 7720;

Baschleiden, Baerel (K7.38/GR.03), on schists, 26.8.1981, Diederich 3444; Heinerscheid, Kasselslay (J8.45/KA.94), on schists, 13.11.1983, Diederich 5030.

New for Luxembourg.

### ***Bacidia fuscoviridis* (Anzi) Lettau**

Gutland: 0.5-1 km SE of Beaufort, valley along Haupeschaach (K8.58/LA.05.20), vertical sandstone rock in wooded gorge, 1.5.1992, Brand 27157 (sterile); Larochette, rocks at NE side of castle (L8.27/KA.95.15), sandstone rock, 27.3.1989, Brand 20036 (fertile).

Belgium: Prov. Namur, 6 km SSE of Dinant, 1.2 km S of Furfooz, Parc National (H5.58/FR.35.60), steep outcrops and boulders along stairs, vertical surface, 16.4.1993, van den Boom 13948.

New for Luxembourg.

### ***Buellia aethalea* (Ach.) Th. Fr.**

Gutland: 1.5 km SW of Berdorf, Binzelschloeff, W of road (L9.11/LA.05.20), 30.4.1992, Aptroot 28715; Lorentzweiler, opposite of the railway station, on the roof of a house, on schists, 24.2.1988, Diederich 8891.

Oesling: 9 km WSW of Clervaux, Hamiville, E of village, wall along churchyard and gravestone (J8.41/GR.05.45), 2.5.1992, van den Boom 12460.

New for Luxembourg.

### ***Caloplaca chlorina* (Flot.) H. Olivier**

Synonym: *C. isidiigera* Vezda

Gutland: Berdorf, 0.5 km SW of centre, along road to Consdorf (L9.11/LA.05.20), 30.4.1992, field observation; Hollenfels, dans le parc près du château (L8.44/KA.45.40), on an old wall, 21.3.1985, Diederich 5921 & Seaward (herb. Diederich).

Oesling: Clervaux, wall of museum (schists) (J8.44/KA.85.45), 19.4.1990, van den Boom 9374.

New for Luxembourg.

### ***Caloplaca decipiens* (Arnold) Blomb. & Forssell**

Gutland: Berdorf, 0.5 km SW of centre, along road to Consdorf (L9.11/LA.05.20), 30.4.1992, field observation; Lorentzweiler, opposite of the railway station, on a wall along the road, 6.3.1982, Diederich 3726; Esch-sur-Alzette, Huesegron (M8.53/KV.80.85), on rocks, 29.7.1986, Diederich 7151.

Oesling: 9 km WSW of Clervaux, Hamiville, E of village, wall along churchyard and gravestone (J8.41/GR.05.45), 2.5.1992, field observation; Consthum (K8.14/KA.8535), sur un mur de ferme du village, sur mousse, 10.1982, Sérusiaux 4427 & Malaise (LG); Weiler, entre Hoscheid et Stolzembourg (K8.25/KA.9035), mur d'une maison en ruine, 10.1982, Sérusiaux 4426 & Malaise (LG).

New for Luxembourg.

### **Caloplaca flavovirescens (Wulfen) Dalla Torre & Sarnth.**

Gutland: Berdorf, 0.5 km SW of centre, along road to Consdorf (L9.11/LA.05.20), 30.4.1992, field observation; Rosport, boucle de la Sûre (L9.14/LA.2015), muret calcaire triasique, 10.1982, Sérusiaux 4473, 4484 & Malaise (LG).

New for Luxembourg.

### **Caloplaca subpallida H. Magn.**

Synonym: *C. arenaria* auct. belg., non (Pers.) Müll. Arg.

Oesling: 1 km E of Esch-sur-Sûre, near tunnel and road N15 (K8.32/GR.10.30), 2.5.1992, Aptroot 28852, 28888, 28895 & van den Boom 12377; 2 km N of Bigonville, Moulin de Bigonville, NW of Hotel, N and S slope (K7.47/GR.00.25), 2.5.1992, Aptroot 28933; 2 km N of Bigonville, Moulin de Bigonville, E of Hotel, rocks near stream (K7.47/GR.00.25), 2.5.1992, van den Boom 12438; 5 km N of Diekirch, Brandenburg, ruins of castle (K8.35/KA.90.30), 3.5.1992, Brand 27262; Bockholz-lès-Hosingen, vallon du Lellgerbaach (K8.14/KA.85.40), on schists, 11.10.1986, Diederich 7718; *ibid.*, 10.1982, Malaise & Sérusiaux 4437 (LG); E of Bourscheid, Moulin de Bourscheid (K8.35/KA.90.30), paroi schisto-gréseuse de l'Emsien, 10.1982, Malaise & Sérusiaux 4377 (LG).

New for Luxembourg.

### **Caloplaca teicholyta (Ach.) Steiner**

Gutland: Berdorf, 0.5 km SW of centre, along road to Consdorf (L9.11/LA.05.20), 30.4.1992, field observation; W of Hunsdorf, on an old wall, 1985, Diederich 3988 (fertile!).

New for Luxembourg.

### **Caloplaca vitellinula auct., non (Nyl.) H. Olivier**

Oesling: 5 km N of Diekirch, Brandenburg, ruins of castle (K8.35/KA.90.30), on schistose stones of wall, exp. W, 3.5.1992, Brand 27254.

New for Luxembourg.

### **Candelariella aurella (Hoffm.) Zahlbr.**

Gutland: Berdorf, 0.5 km SW of centre, along road to Consdorf (L9.11/LA.05.20), 30.4.1992, field observation; N of Folkendange, Brouderbur, grès dolomitique, 18.7.1981, Diederich 3411.

Oesling: 6 km NW of Clervaux, Asselborn, wall of church and wall along churchyard (J8.32/GR.10.50), 2.5.1992, v. d. Boom 12439.

New for Luxembourg.

### **Candelariella medians (Nyl.) A. L. Sm.**

Gutland: Walferdange, churchyard, on a gravestone (L8.55/KA.90.00), 8.2.1980, Diederich 3172.

Oesling: 9 km WSW of Clervaux, Hamiville, E of village, wall along churchyard and gravestone (J8.41/GR.05.45), 2.5.1992, van den Boom 12459.

New for Luxembourg.

### **Catillaria atomarioides (Müll. Arg.) H. Kilius**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, E of Hotel, W slope with schists (K7.47/GR.00.25), 2.5.1992, van den Boom s.n. & Brand 27209.; *ibid.*, 1.1.1994, Diederich 5149.

New for Luxembourg.

### **Catillaria chalybeia (Borrer) Massal.**

Gutland: Berdorf, 0.5 km SW of centre, along road to Consdorf (L9.11/LA.05.20), 30.4.1992, field observation; 0.6 km NW of Berdorf, near the churchyard (K9.51/LA.05.20), 1.5.1992, van den Boom 12369.

Oesling: 1 km E of Esch-sur-Sûre, near tunnel and road N15 (K8.32/GR.10.30), 2.5.1992, Aptroot 28891; 2 km N of Bigonville, Moulin de Bigonville, NW of Hotel, N and S slope (K7.47/GR.00.25), 2.5.1992, Aptroot 28936; 9 km WSW of Clervaux, Hamiville, E of village, wall along churchyard and gravestone (J8.41/GR.05.45), 2.5.1992, field observation; 5 km N of Diekirch, Brandenburg, ruins of castle (K8.35/KA.90.30), 3.5.1992, field observation.

New for Luxembourg.

### **Cladonia borealis S. Stenroos**

Oesling: 5 km N of Diekirch, Brandenburg, ruins of castle (K8.35/KA.90.30), 3.5.1992, Brand 27267.

This terricolous lichen is a member of the *C. coccifera* group. Important distinctive characters are the areolate corticate podetial surface and the chemistry (usnic and barbatic acids). It is most closely related to *C. coccifera* s.s., which contains usnic acid and zeorin, and in which the podetial surface has a scaly, plated structure.

New for Luxembourg.

### **Cladonia grayi G. Merr. ex Sandst. s.l.**

Several taxa belonging to the *C. chlorophaea* group have been collected during the excursion (*C. cryptochlorophaea* Asahina, *C. grayi*, *C. merochlorophaea* Asahina s.s. and *C. merochlorophaea* var. *novochlorophaea* Sipman). As no correlation seems to exist between the chemistry and the morphology of the corresponding specimens (see for example De Priest 1993), we prefer to consider all these taxa just as chemotypes of one single species, *C. grayi*.

### **Cladonia strepsilis (Ach.) Grognot**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, NW of Hotel, N and S slope (K7.47/GR.00.25), 2.5.1992, van den Boom 12403, Brand 27194 & Diederich 4819; Hoscheid, Molberlay (K8.24/KA.90.35), 2.5.1987, Diederich 7923 & Daniëls; Bockholz-lès-Hosingen, vallon du Lellgerbaach (K8.14/KA.85.40), 11.10.1986, Diederich 7723.

New for Luxembourg.



**Cresponea premnea (Ach.) Egea & Torrente var. saxicola (Leight.) Egea & Torrente**

Synonym: *Lecanactis plocina* auct.

Gutland: SW of Berdorf, Weerschrumshoeff (L9.11/LA.05.20), 3.5.1992, vertical sandstone rocks, exp. SW, edge of parking place in wooded NW slope, with *Dirina massiliensis*, Brand 27246.

New for Luxembourg.

**Diplotomma ambiguum (Ach.) Flagey**

Oesling: 5 km N of Diekirch, Brandenburg, ruins of castle (K8.35/KA.90.30), 3.5.1992, Brand 27256.

New for Luxembourg.

**Diplotomma dispersum (Krempelsh.) Arnold**

Oesling: 9 km WSW of Clervaux, Hamiville, E of village, wall along churchyard (J8.41/GR.05.45), 2.5.1992, van den Boom 12457.

New for Luxembourg.

**Dirina massiliensis Durieu & Mont. f. soreliata (Müll. Arg.) Tehler**

Gutland: SW of Berdorf, Weerschrumshoeff, flattened top of sandstone rocks, with *Calluna* in wooded NW slope (L9.11/LA.05.20), 3.5.1992, Brand 27246; 0.5-1 km SE of Beaufort, valley along Haupeschaach (K8.58/LA.05.20), 1.5.1992, Aptroot 28810, van den Boom 12350 & Diederich 4795; E Rollingen (near Mersch), Dréiburen (L8.35/KA.90.10), on sandstone, 16.7.1983, 26.9.1986 and 15.3.1987, Diederich 5819, 7677, 7845.

The specimens Aptroot 28810 and Diederich 4794, 7677 and 7845 contain lecanoric acid and erythrin (TLC!). The similar *Arthonia endlicheri* (Garov.) Oxner, which lacks erythrin, does not seem to occur in Luxembourg.

New for Luxembourg.

**Endocarpon pallidum Ach.**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, E of Hotel, rocks in the stream (K7.47/GR.00.25), 2.5.1992, van den Boom 12435, Brand 27221 & Diederich 4805 (det. Breuss).

New for Luxembourg.

**Enterographa hutchinsiae (Leight.) Massal.**

Gutland: 1.5 km SW of Berdorf, Binzeltschloff, W of road (L9.11/LA.05.20), 30.4.1992, on rock, Aptroot 28786; *ibid.*, on *Quercus*, Aptroot 28759; *ibid.*, 11.6.1984, on *Acer*, Diederich 5736 & Sérusiaux; 0.5-1 km SE of Beaufort, valley along Haupeschaach (K8.58/LA.05.20), 1.5.1992, on *Fagus*, van den Boom 12351 & Brand 27165; 1 km SE of Berdorf, Aesbech (L9.12/LA.10.20), 3.5.1992, field observation; *ibid.*, 12.6.1984, on *Fagus*, Diederich 5634; NEE of Haller, valley along Hallerbach (L8.18/LA.05.20), 22.9.1986, on *Fagus* and *Quercus*, Diederich 7580, 7589; E Rollingen (L8.35/KA.90.10), 11.7.1983, on *Fagus* and *Carpinus*, Diederich 5762, 5797; Larochette, Manzebaach (L8.27/KA.95.15), 11.5.1985, on *Fagus*,

Diederich 6025; S Nommern, Nommerlayen (L8.26/KA.95.15), 21.4.1990, on *Fagus*, Diederich 9098.

*E. hutchinsiae* is a common and widespread saxicolous lichen, which is considered to occur only occasionally on bark. In Luxembourg it is not rare on smooth bark in the forests of the Luxembourg sandstone area, but it has been mistaken for *E. crassa* (DC) Fée by Diederich (1989) and Sérusiaux & al. (1985).

*E. hutchinsiae* has a thin thallus, 150 µm thick when saxicolous and 60-85 µm when epiphytic, cracked without areoles, olive green to greenish brown, with *Trentepohlia* and with confluent acid; apothecia numerous, curved and comma-like, 0.2-0.7 x 0.05-0.07(0.1) mm; spores (4-)5(-6)-septate, 20-31 x 4.2-4.8 µm.

*E. crassa* has a thicker thallus (in the center 150-200(-300) µm), with distinct areolae; apothecia punctiform or short lirelliform, 0.03-0.4 x 0.03-0.05 mm; spores narrower, only 3.0-3.8 µm large.

*E. crassa* does not seem to occur in Luxembourg, whilst *E. hutchinsiae* is new for Luxembourg.

### **Fuscidea lightfootii (Sm.) Coppins & P. James**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, SW side of Sûre (K7.47/GR.00.25), 2.5.1992, on *Sarothamnus*, Brand 27192; 15 km W of Ettelbruck, 2.5 km NE of Rambrouch, *Tilia* along road on plateau (K8.51/GR.05.25), 3.5.1992, Brand 27223.

Both specimens contain divaricatic acid. This species has previously been collected twice in Luxembourg (Diederich, 1989).

### **Gyalecta flotowii Körb.**

Gutland: 1 km SE of Berdorf, Aesbech (L9.12/LA.10.20), old *Fagus*, nearly dead, with much *Opegrapha varia*, in wooded gorge, 3.5.1992, Brand 27234.

New for Luxembourg.

### **Lecania naegelii (Hepp) Diederich & v. d. Boom comb. nov.**

Basionym: *Biatora naegelii* Hepp, Flecht. Eur.: nr. 19, 1853.

Synonym: *Bacidia naegelii* (Hepp) Zahlbr.

Gutland: 1.5 km SW of Berdorf, Binzelschloeff, W of road (L9.11/LA.05.20), 30.4.1992, on *Fagus*, van den Boom 12307 & Diederich 4799.

Oesling: 2 km N of Bigonville, Moulin de Bigonville, NW of Hotel, N and S slope (K7.47/GR.00.25), 2.5.1992, Aptroot 28915, Brand 27188 & Spier 3188.

Thallus continuous to weakly rimose or minutely granular, grey; apothecia whitish grey to brown, 0.2-0.6 mm in diam., plane to convex; excipulum biatorine, colourless, at the underside sometimes with algae; epithecium colourless to greenish; paraphyses sometimes branched, 1.5-2(-2.5) µm wide (in KOH), conglutinated, cells in the epithecium sometimes with a greenish to brownish pigment, apical cells 3-5 µm wide; asci of the *Bacidia*-type; ascospores thin-walled, 13-18 x 3-5 µm, (0-)3(-4)-septate, oblong to fusiform, sometimes curved.

As the biatorine apothecia in this species strongly resemble apothecia of several species of *Lecania*, and as the ascospores are similar to those of most species of *Lecania* with 3-septate spores, it seems justified to place this taxon in *Lecania*.

***Lecania suavis* (Müll. Arg.) Mig.**

Oesling: 10 km N of Clervaux, Wilwerdange, shaded wall of church, on mortar (J8.23/KA.85.55), 2.5.1992, van den Boom 12467.

New for Luxembourg.

***Lecanora achariana* A. L. Sm.**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, E of Hotel, horizontal boulder in the stream (Sûre) (K7.47/GR.00.25), 2.5.1992, van den Boom 12448 & Brand 27216 (herb. van den Boom, herb. Brand, herb. Diederich).

New for Luxembourg.

***Lecanora crenulata* Hook.**

Oesling: 6 km NW of Clervaux, Asselborn, wall of church and wall along churchyard (J8.32/GR.10.50), 2.5.1992, van den Boom 12463.

New for Luxembourg.

***Lecanora gangaleoides* Nyl.**

Gutland: 0.5-1 km SE of Beaufort, valley along Haupeschaach (K8.58/LA.05.20), 1.5.1992, on a vertical sandstone rock, Aptroot 28813 & van den Boom 12362.

Oesling: 1 km E of Esch-sur-Sûre, near tunnel and road N15 (K8.32/GR.10.30), 2.5.1992, vertical rock, van den Boom 12398.

New for Luxembourg.

***Lecanora orosthea* (Ach.) Ach.**

Gutland: SW of Berdorf, Weerschumschloeff, flattened top of sandstone rocks, with *Calluna* in wooded NW slope (L9.11/LA.05.20), 3.5.1992, field observation.

Oesling: 1 km E of Esch-sur-Sûre, near tunnel and road N15 (K8.32/GR.10.30), 2.5.1992, van den Boom 12389; 2 km N of Bigonville, Moulin de Bigonville, E of Hotel, W slope with schists (K7.47/GR.00.25), 2.5.1992, van den Boom 12432, 12455.

New for Luxembourg.

***Lecanora subcarpineae* Szatala**

Synonym: *Lecanora nemoralis* auct.

Gutland: 2 km W of Berdorf, Vugelsmillen (L9.11/LA.05.20), 30.4.1992, on *Tilia*, Spier 3087; Between Vichten and Bissen (L8.13/KA.82), on *Fagus*, 6.4.1891, Feltgen 111a (LUX); Dommeldange, Schlaed (M8.16/KA.90), on *Fagus*, 6.1963, Van Wersch s.n. (LUX); N Pratz (L8.12/GR.12), on *Quercus*, 14.9.1979, Diederich 1885; Blaschette, Bëddelboesch (L8.46/KA.90), on *Carpinus*, 24.4.1983, Diederich 3643b; *ibid.*, on wood of *Populus tremula*, 17.5.1984, Diederich 5465; Kockelscheuer, Kecherboesch (M8.35/KV.99), on *Populus*,

4.9.1986, Diederich 7432; W Bastendorf, Hooldaer (K8.46/KA.92), on *Fraxinus*, 11.9.1986, Diederich 7515; SW Ettelbruck (K8.54/KA.82), on *Fraxinus*, 1.3.1987, Diederich 7803.  
Oesling: Heinerscheid, Kasselslay (J8.45/KA.94), on *Sorbus*, 13.11.1983, Diederich 5000; E Lieler, Buch (J8.25/KA.95), on *Quercus*, 18.8.1986, Diederich 7244; Kautenbach, near Moulin Felder (K8.23/KA.83), on *Carpinus*, 9.9.1987, Diederich 8668b.

Diederich (1989) reported a Luxembourg species of the *Lecanora carpineae* group with a PD+ orange thallus, which he called *Lecanora leptyroides* (Nyl.) Degel. We realized that this determination was wrong, and sent selected material to Dr Irwin Brodo (Ottawa) who kindly communicated us the following informations. The Luxembourg specimens Diederich 7244 and 7515 contain roccellic acid, psoromic acid and atranorin, and agree very well with the type of *L. subcarpineae*. European material of apparently the same taxon has often been called *L. nemoralis* Makar. As the type of *L. nemoralis* has not been studied by Dr Brodo, and as Makarevich (1971) says that the thallus in *L. nemoralis* is PD-, some doubt remains about the identity of this taxon. If both taxa are really conspecific, there is a problem of priority, as both have been described in the second half of 1954. In the meantime it is safe to call the Luxembourg material *L. subcarpineae* Szatala (= *L. nemoralis* auct.).

*Lecanora subcarpineae* is new for Luxembourg, whilst *L. leptyroides* does not seem to exist in this country.

### ***Lecanora swartzii* (Ach.) Ach.**

Synonym: *L. subradiosa* Nyl.

Gutland: 1.5 km SW of Berdorf, Binzeltschloeff, W of road, sunny horizontal rock near overhang, 30.4.1992, v. d. Boom 12312.

New for Luxembourg.

### ***Lecidea pycnocarpa* (Körb.) Ohlert**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, NE side of Sûre (K7.47/GR.00.25), open rocky ridge of schist, N-face, 2.5.1992, Brand 27213.

Belgium: Prov. Luxembourg, 7 km W of St. Hubert, 1.6 km N of Poix, valley of Lomme (J6.56/FR.65.40), schistose rock in open *Quercus* wood, 5.3.1993, Brand 29441.

New for Luxembourg and Belgium.

### ***Lecidella scabra* (Taylor) Hertel & Leuckert**

Gutland: Berdorf, 0.5 km SW of centre, along road to Consdorf (L9.11/LA.05.20), 30.4.1992, field observation; 0.6 km NW of Berdorf, near the churchyard (K9.51/LA.05.20), 1.5.1992, van den Boom 12372.

Oesling: 1 km E of Esch-sur-Sûre, near tunnel and road N15 (K8.32/GR.10.30), 2.5.1992, Aptroot 28867.

New for Luxembourg.

### ***Lecidella stigmatea* (Ach.) Hertel & Leuckert**

Gutland: 1.5 km SW of Berdorf, Binzeltschloeff, W of road (L9.11/LA.05.20), 30.4.1992, Aptroot 28722; 0.6 km NW of Berdorf, near the churchyard (K9.51/LA.05.20), 1.5.1992, van den Boom 12382 & Spier 3153; Dudelange, Gaalgebierg, on sandstone, 22.8.1981, Diederich 3312b; Grevenmacher, Kelsbach, on calcareous rocks, 7.11.1981, Diederich 3746.

Oesling: 9 km WSW of Clervaux, Hamiville, E of village, wall along churchyard and gravestone (J8.41/GR.05.45), 2.5.1992, field observation; 6 km NW of Clervaux, Asselborn, wall of church and wall along churchyard (J8.32/GR.10.50), 2.5.1992, field observation; 10 km N of Clervaux, Wilwerdange, shaded wall of church (J8.23/KA.85.55), 2.5.1992, field observation.

New for Luxembourg.

### ***Lempholemma polyanthes* (Bernh.) Malme**

Synonyms: *L. myriococcum* (Ach.) Th. Fr., *L. chalazanodes* (Nyl.) Zahlbr.

Gutland: Berdorf, 0.5 km SW of centre, along road to Consdorf (L9.11/LA.05.20), 30.4.1992, vertical surface of wall, Aptroot 28652 & van den Boom 12302 (herb. Aptroot, herb. van den Boom, herb. Diederich).

The spores in our specimen measure 14-19 x 7.5-11 µm.

This species has been mentioned in the Luxembourg literature by Feltgen (1902) and Koltz (1897) under the name *Physma compactum*, referring to collections made by Feltgen in Mersch, Angelsberg and Ansembourg. We have seen the specimen from Mersch in LUX, and it belongs to *Collema tenax*. The species is therefore considered as new for Luxembourg.

### ***Lepraria crassissima* (Hue) Lettau**

Gutland: S. loc., on sandstone, 1840, Tinant 522, 526 (LUX). Fischbach (L8.36/KA.91), on sandstone, 11.9.1890, Feltgen 125 (LUX); E Meysembourg (L8.26.42/KA.91), on sandstone, 18.8.1979, Diederich 1579; NEE Haller, Halerbaach (L8.18.22/LA.02), on *Quercus*, 22.9.1986, Diederich 7606b, 7607; E Rollingen (Mersch), Dréiburen (L8.35.24/KA.91), on sandstone, 15.3.1987, Diederich 7843; 1 km SE of Berdorf, Aesbech (L9.12/LA.10.20), on *Quercus*, 3.5.1991, Diederich 9795; *ibid.*, on sandstone, 6.8.1991, Diederich 9783; *ibid.*, 30.4.1992, Aptroot 28620, 28629, 28631 & van den Boom 12279, 12280; 1.5 km SW of Berdorf, Binzeltschloeff, W of road (L9.11/LA.05.20), 30.4.1992, Aptroot 28713; 0.5-1 km SE of Beaufort, valley along Haupeschaach (K8.58/LA.05.20), 23.9.1986, Diederich 7633; *ibid.*, 1.5.1992, Aptroot 28797, 28798, 28817 & van den Boom 12349; *ibid.*, on *Fagus*, Aptroot 28774; Beaufort, Vogelsmühle, Halerbaach (L9.11/LA.05.20), on sandstone, 6.8.1991, Diederich 9784; N Sandweiler, Schwarzbur (M8.17/KA.95.00), on *Fagus*, 18.7.1986, Diederich 7117.

Belgium, prov. Namur: 16 km WNW of Bouillon, Bohan, Roche la Dame path (K5.57/FR.35.25), on rock, 15.4.1993, van den Boom 13883; 10 km SW of Dinant, 1.3 km WNW of Hermeton-sur-Meuse, valley of Hermeton (H5.55/FR.25.60), on rock, 14.4.1993, van den Boom 13867.

Madeira: Between Ponta do Sol and Porto Moniz, Rabaçal, alt. 1000 m, au bord d'une levada, 8.4.1992, Diederich 4928 (herb. Diederich, LG).

The identity of *Lepraria crassissima* (Hue) Lettau was a mystery for many years, and recent monographers published little about it. Laundon (1992: 335) and Tønsberg (1992) briefly mentioned the species, and Laundon (1992) described an

additional species of the *L. crassissima* group, *L. nivalis* Laundon. Kümmerling & al. (1991) studied the type of *L. crassissima* and concluded that it is conspecific with *L. incana* (L.) Ach.

We reexamined the type collection of *L. crassissima* (B - isotypus, references: see Kümmerling & al., 1991), and we conclude that *L. crassissima* (Hue) Lettau is a distinct species, morphologically and ecologically different from *L. incana*, which has already been studied and described by Diederich (1989) under the name *L. crassissima* auct.

*L. crassissima* has a thick, uneven, often folded, mostly delimited and sometimes a little lobed thallus with a diameter of several cm and with a very thick white medulla; the upper surface is covered with bluish, greyish or greenish soredia, which are often eroded in older herbarium specimens, giving them a whitish appearance (e. g. the type specimen); if well developed (e. g. the material from Madeira cited above), the upper surface is partly brownish and granular, the granules becoming soon sorediate, and the soredia tend to cover the whole surface; dying parts of the thallus present a typical brownish colour. The thallus has a distinct lower surface, which is often cerebriform (if the thallus is folded!), more or less smooth or tomentose, white to brownish.

Chemistry: Kümmerling & al. (1991) detected divaricatic acid, nordivaricatic acid and zeorin in the type specimen, which reacts C+ red, due to the high amount of nordivaricatic acid. The numerous specimens we studied all contain divaricatic acid and zeorin, and most of them contain sufficient quantities of nordivaricatic acid to give the typical C+ red reaction of the thallus. Diederich (1989) mentioned a number of specimens with atranorin, zeorin, and stictic, constictic and cryptostictic acids; these specimens may belong to the same species, representing a second chemical strain, but we prefer to await the discovery of additional specimens before taking a final decision on them.

In Luxembourg, *L. crassissima* is very common on sandstone rocks which contain small amounts of calcium. It occasionally grows on trees. We believe that the species is growing mainly on non-calcareous rocks, but this affirmation has to be confirmed by the study of more material from other countries.

*L. crassissima* could be confused with *Lepraria incana*, which contains also divaricatic acid and zeorin, but in that species the thallus is always C- (nordivaricatic acid absent or present in small quantities). *L. incana* is morphologically different: the medulla is poorly developed or absent, the lower surface is not distinct and the thallus is never folded and rarely well delimited. *L. incana* has also a different ecology, being very frequent on trees, and occurring on all kinds of rocks.

*L. nivalis* is morphologically similar, but differs by a much whiter colour, a different chemistry (atranorin and protocetraric or fumarprotocetraric acid), and a preference for calcareous rocks.

*L. lobificans* Nyl. has a different colour (greenish), a lower surface that is not distinct, a different chemistry (atranorin, zeorin, stictic and constictic acid), and a different ecology, being most common on trees.

### **Leptogium teretiusculum (Wallr.) Arnold**

Gutland: 1 km E of Manternach, N of road C.R. 134, S exp. slope (L9.43/LA.15.10), 1.5.1992, on calcareous rock, Aptroot 28740, van den Boom 12331, Brand 27143 & Diederich 4788 (conf. P. M. Jørgensen).

New for Luxembourg.

### **Lichenostigma elongata Nav.-Ros. & Hafellner**

Oesling: 2 km N of Bigonville, Moulin de Bigonville (K7.47/GR.00.25), on schistose rocks near the road, on *Aspicilia caesiocinerea*, 2.5.1992, field observation; *ibid.*, 1.1.1994, Diederich 3977; E Baschleiden, Hellekessel (K7.38/GR.03), on schists, on *A. caesiocinerea*, 26.8.1981, Diederich 3441; NE Oberfeulen, vallée de la Wark (K8.44/KA.82), on schists, on *Aspicilia* sp., 14.8.1984, Diederich 5846.

A lichenicolous ascomycete, new for Luxembourg.

### **Macentina stigonemoides Orange**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, along stream (K7.47/GR.00.25), on *Sambucus*, 2.5.1992, Brand 27204.

New for Luxembourg.

### **Melanelia disjuncta (Erichsen) Essl.**

Gutland: 1.5 km SW of Berdorf, Binzeltschloeff, W of road C. R. 364 (L9.11/LA.05.20), sandstone rock, E slope, 2.5.1992, van den Boom 12473.

Oesling: 2 km N of Bigonville, Moulin de Bigonville, E of Hotel, W slope with schists (K7.47/GR.00.25), 2.5.1992, van den Boom 12440 & Brand 27210 (herb. van den Boom, herb. Brand, herb. Diederich); Hoscheid, Molberlay (K8.24/KA.90.35), 28.9.1966, Lambinon 66/1594 (LG, LUX).

New for Luxembourg.

### **Micarea curvata Coppins**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, NE side of Sûre (K7.47/GR.00.25), 2.5.1992, open rocky ridge of schist, N-face, Brand 27214.

Belgium: S of Vielsalm, NE of Salm Château, alt. 400 m (H8.31/GR.05.75), 4.5.1992, W facing outcrop, Brand 27287.

*Micarea curvata* is characterised by the distinctly curved, 1-septate spores, the fuscous brown pigment in the apothecia which is unchanged in KOH or HNO<sub>3</sub> and the C+ red apothecia and thallus (section). It is similar in appearance to some forms of *Scoliciosporum umbrinum*. The Luxembourg specimen is very small, whilst the Belgian collection is richer. The species was only known from the type collection in Germany.

New for Luxembourg and Belgium.

### **Micarea hedlundii** Coppins

Gutland: 1.5 km SW of Berdorf, Predigtstuhl, E of road (L9.11/LA.05.20), 30.4.1992, on sandstone, van den Boom 12402 (herb. van den Boom, herb. Diederich).

The specimen is sterile, but presents numerous, conspicuous stalked pycnidia, up to 1 mm tall and ca. 0.1 mm diam. It is characterized by a dark green thallus of gonocysts and pycnidia covered with a thin whitish tomentum. The pycnidial wall is violet or violet-brown in KOH and reddish in HNO<sub>3</sub>.

New for Luxembourg.

### **Micarea pycnidiophora** Coppins & P. James

Gutland: 0.5-1 km SE of Beaufort, valley along Haupeschaach (K8.58/LA.05.20), 1.5.1992, on *Acer*, Aptroot 28770, van den Boom 12346, Brand 27164 & Diederich 4790.

This species has previously been known from one single Luxembourg locality in the valley of the Aesbaach (Diederich & al. 1988).

### **Neofuscelia loxodes** (Nyl.) Essl.

Gutland: 0.6 km NW of Berdorf, near the churchyard (K9.51/LA.05.20), 1.5.1992, van den Boom 12371, Brand 27172 & Spier 3220 (herb. van den Boom, herb. Diederich, herb. Spier).

The species was growing together with *N. verruculifera*. Both species have been studied by TLC: *N. loxodes* contains glomelliferic acid and perlatolic acid, whilst *N. verruculifera* contains divaricatic acid.

New for Luxembourg.

### **Ochrolechia parella** (L.) Massal.

Gutland: SW of Berdorf, Weerschrumshoeff, flattened top of sandstone rocks, with *Calluna* in wooded NW slope (L9.11/LA.05.20), 3.5.1992, Brand 27248.

This species has already been mentioned from Luxembourg in the last century (Diederich, 1989: 170), but no herbarium specimen has been found in LUX. The presence of the species in Luxembourg is herewith confirmed.

### **Omphalina hudsoniana** (H. S. Jenn.) H. E. Bigelow

Gutland: SW of Berdorf, Weerschrumshoeff, flattened top of sandstone rocks, with *Calluna* in wooded NW slope (L9.11/LA.05.20), 3.5.1992, Brand 27244 (fertile!).

New for Luxembourg.

### **Opegrapha lithyrga** Ach.

Oesling: 1 km E of Esch-sur-Sûre, near tunnel and road N15 (K8.32/GR.10.30), 2.5.1992, on schists, Aptroot 28855 & van den Boom 12393.

This species has been mentioned by Koltz (1897: 274) from Luxembourg without giving a locality. As no specimen is present in LUX, this indication must be regarded as dubious. The presence of the species in Luxembourg is herewith confirmed.



### **Pachyphiale fagicola (Hepp) Zwackh**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, NW of Hotel, N and S slope (K7.47/GR.00.25), 2.5.1992, on *Fraxinus* and *Populus*, Aptroot 28917 & Spier 3340 (herb. Aptroot, herb. v. d. Boom, herb. Spier).

This rare species was known from one single Luxembourg collection (Sérusiaux & al., 1985).

### **Parmeliella triptophylla (Ach.) Müll. Arg.**

Gutland: 1 km SE of Berdorf, Aesbech (L9.12/LA.10.20), dead *Quercus*, rather thin, on steep slope in wooded gorge, 3.5.1992, Brand 27237.

New for Luxembourg.

### **Pharcidia coniodes Nyl.**

Gutland: 1.5 km SW of Berdorf, Predigtstuhl, E of road (L9.11/LA.05.20), 30.4.1992, on *Baeomyces rufus*, Diederich 4802.

This lichenicolous ascomycete does not belong to *Stigmidium* (= *Pharcidia*) (fide C. Roux, pers. comm.).

New for Luxembourg.

### **Phlyctis agelaea (Ach.) Flot.**

Gutland: 1.5 km SW of Berdorf, Binzelschloeff, W of road (L9.11/LA.05.20), 30.4.1992, on *Fagus*, van den Boom 12311 & Diederich 4798.

New for Luxembourg.

### **Polysporina simplex (Davies) Vezda**

Oesling: 1 km E of Esch-sur-Sûre, near tunnel and road N15 (K8.32/GR.10.30), 2.5.1992, Spier 3198; 2 km N of Bigonville, Moulin de Bigonville, NW of Hotel, N and S slope (K7.47/GR.00.25), 2.5.1992, Brand 27202; 2 km N of Bigonville, Moulin de Bigonville, E of Hotel, W slope with schists (K7.47/GR.00.25), 2.5.1992, field observation; 5 km N of Diekirch, Brandenburg, ruins of castle (K8.35/KA.90.30), 3.5.1992, Brand 27256.

Koltz (1897: 268) mentioned this species from the Ardennes, but no exact locality is given, and no specimen is present in LUX. The presence in Luxembourg of this species is herewith confirmed.

### **Porina chlorotica (Ach.) Müll. Arg.**

Gutland: 0.5-1 km SE of Beaufort, valley along Haupeschaach (K8.58/LA.05.20), 1.5.1992, Aptroot 28792. 1 km SE of Berdorf, Aesbech (L9.12/LA.10.20), 3.5.1992, field observation.

Oesling: 1 km E of Esch-sur-Sûre, near tunnel and road N15 (K8.32/GR.10.30), 2.5.1992, field observation.

Koltz (1897: 310) mentioned this species from Luxembourg, but no exact locality is given, and no specimen is present in LUX. The presence in Luxembourg of this species is herewith confirmed.

**Protoparmelia badia (Hoffm.) Hafellner**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, E of Hotel, W slope with schists (K7.47/GR.00.25), 2.5.1992, Brand: field observation; *ibid.*, 1.1.1994, Diederich 5132.

New for Luxembourg.

**Psilolechia clavulifera (Nyl.) Coppins**

Gutland: 0.5-1 km SE of Beaufort, valley along Haupeschaach (K8.58/LA.05.20), 1.5.1992, on sandstone rocks, van den Boom 12343, 12347.

New for Luxembourg.

**Rhizocarpon badioatrum (Flörke ex Sprengel) Th. Fr.**

Oesling: 1 km E of Esch-sur-Sûre, near tunnel and road N15 (K8.32/GR.10.30), 2.5.1992, Aptroot 28841 & Brand 27186.

New for Luxembourg.

**Rhizocarpon distinctum Th. Fr.**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, S of Hotel, horizontal surface of bridge (K7.47/GR.00.25), 2.5.1992, van den Boom 12423 & Brand 27202; *ibid.*, E of Hotel, W slope with schists, Brand 27209.

Koltz (1897: 256, sub *R. atroalbum*) mentioned this species from the Ardennes, but no exact locality is given, and no specimen is present in LUX. The presence in Luxembourg of this species is herewith confirmed.

**Rhizocarpon geminatum Körb.**

Gutland: Lorentzweiler, sur le toit d'une maison en face de la gare (L8.46/KA.90.05), sur ardoises, 24.2.1988, Diederich 8889.

Oesling: 2 km N of Bigonville, Moulin de Bigonville, S of Hotel (K7.47/GR.00.25), on horizontal surface of bridge, 2.5.1992, van den Boom 12487.

New for Luxembourg.

**Rinodina gennarii Bagl.**

Gutland: Berdorf, 0.5 km SW of centre, along road to Consdorf (L9.11/LA.05.20), 30.4.1992, field observation; Beaufort, near castle (K8.58/LA.00.20), 4.1988, van den Boom 6711 (herb. v. d. Boom, herb. Diederich).

Oesling: 10 km N of Clervaux, Wilwerdange, shaded wall of church (J8.23/KA.85.55), 2.5.1992, van den Boom 12469; 7 km N of Clervaux, Binsfeld, wall along church (J8.24/KA.85.55), 9.5.1991, van den Boom 11211 (conf. H. Mayrhofer).

New for Luxembourg.

**Rinodina interpolata (Stirton) Sheard**

Gutland: 1.5 km SW of Berdorf, Binzeltschloeff (L9.11/LA.05.20), 30.4.1992, Aptroot 28721.

New for Luxembourg.

**Rinodina oxydata (Massal.) Massal.**

Oesling: 1 km E of Esch-sur-Sûre, near tunnel and road N15 (K8.32/GR.10.30), 2.5.1992, Aptroot 28839 & van den Boom s.n.; 2 km N of Bigonville, Moulin de Bigonville, E of Hotel, horizontal boulder in the stream (K7.47/GR.00.25), 2.5.1992, van den Boom 12453 & Brand 27227.

New for Luxembourg.

**Roselliniopsis tartaricola (Nyl.) Matzer**

Gutland: 0.5-1 km SE of Beaufort, valley along Haupeschaach (K8.58/LA.05.20), on *Fagus*, on *Pertusaria hemisphaerica*, 1.5.1992, van den Boom & Diederich, field observation.

This lichenicolous ascomycete is very common in Europe, and numerous specimens, mainly from Luxembourg and Belgium, have been published by Diederich & al. (1992) under the name *R. tropica* Matzer & R. Sant. *R. tropica* has recently been shown to be a distinct species (Matzer 1993) not occurring in Luxembourg. *R. tartaricola* is new for Luxembourg.

**Sarcogyne regularis Körb.**

Gutland: 2 km SW of Grevenmacher, SE slope (L9.53/LA.10.00), 1.5.1992, Aptroot 28744 & Spier 3170.

Oesling: 9 km WSW of Clervaux, Hamiville, E of village, wall along churchyard and gravestone (J8.41/GR.05.45), 2.5.1992, field observation.

New for Luxembourg.

**Schismatomma umbrinum (Coppins & P. James) P. M. Jørg. & Tønberg**

Gutland: 1 km SE of Berdorf, Aesbech (L9.12/LA.10.20), 3.5.1992, Brand 27228.

New for Luxembourg.

**Scoliciosporum gallurae Vezda & Poelt**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, NW of Hotel (K7.47/GR.00.25), S-exposed rocky ridge, on *Sarothamnus*, 2.5.1992, van den Boom 12406 & Brand 27191.

Following the treatment of Tønberg (1992: 299-300), the Luxembourg collections belong to *S. gallurae*, a species originally described from Sardinia and eventually mentioned from S France (Bricaud & al. 1991: 150). Its thallus is sorediose and does not form regular soralia, and its spores are more or less straight and measure 16-25 x 3-3.5  $\mu\text{m}$ . This taxon may represent a juvenile or badly developed form of the most common *S. chlorococcum* and requires further study.

*S. sarothamni* (Vainio) Vezda is closely related: following Tønberg (1992), it has discrete soralia and its spores are distinctly curved to sigmoid and measure 20-30 x 2(-2.5)  $\mu\text{m}$ . It has been mentioned from Belgium (Sérusiaux 1990: 143): the first specimen (Lierneux, Colanhan, 1988, Sérusiaux 10334, LG) has more or less discrete soralia at early stages of development and only immature apothecia (no spores seen); the other (Habay-la-Neuve, Fond du Gris Bofet, 1988, Sérusiaux s.n.,

LG) has discrete soralia, but mature thalli are diffuse and almost completely sorediate, and its spores are distinctly curved-sigmoid and reach 25 x 3 µm. It therefore seems reasonable to identify them as *S. sarothamni*.

New for Luxembourg.

### **Staurothele frustulenta Vain.**

Oesling: 6 km NW of Clervaux, Asselborn, wall of church and wall along churchyard (J8.32/GR.10.50), 2.5.1992, van den Boom 12464.

Our material agrees well with the description that Poelt (1969: 627) gave for *S. catalepta* (Ach.) Blomb. & Forss. Santesson (1993) states, however, that the type of *S. catalepta* is a species of *Verrucaria* and that *S. catalepta* auct. belongs to *S. frustulenta*.

New for Luxembourg.

### **Strangospora moriformis (Ach.) B. Stein**

Gutland: Berdorf, camping on road to Consdorf (L9.11/LA.05.20), on wood, 30.4.1992, Aptroot 28654 (herb. Aptroot, herb. Diederich).

New for Luxembourg.

### **Strigula jamesii (Swinscow) R. C. Harris**

Gutland: 1 km SE of Berdorf, Aesbech (L9.12/LA.10.20), 3.5.1992, old *Fagus*, nearly dead, with much *Opegrapha varia*, in wooded gorge, Brand 27232.

This specimen is referred to *Strigula jamesii* as it has small perithecia (less than 0.2 mm in diam.) and 3-septate spores: no other European species of *Strigula* has these characteristics. The specimen mentioned by Sérusiaux & al. (1985: 33) from Belgium, Etalle, 1984, leg. Sérusiaux 6454 (LG) under *Strigula affinis* (Massal.) R. C. Harris also belongs to this species: it has small perithecia whilst *S. affinis* has larger perithecia, usually 0.2-0.3(-0.4) mm in diam.

New for Luxembourg.

### **Toninia aromatica (Sm.) Massal.**

Gutland: 0.6 km NW of Berdorf, near the churchyard (K9.51/LA.05.20), 1.5.1992, van den Boom 12374.

This species has already been mentioned from Luxembourg (Consdorf, Goldfralay, leg. Reinhardt) by Koltz (1897: 231), but no specimen has been found in LUX. The presence of the species in Luxembourg is herewith confirmed.

### **Trapelia obtogens (Th. Fr.) Hertel**

Gutland: 0.6 km NW of Berdorf, near the churchyard (K9.51/LA.05.20), 1.5.1992, Brand 27171.

New for Luxembourg.

**Trapeliopsis gelatinosa (Flörke) Coppins & P. James**

Gutland, 2 km W of Berdorf, Vugelsmillen (L9.11/LA.05.20), on *Tilia* at margin of parking-lot, 30.4.1992, van den Boom 12291 (det. B. Coppins).

This is the first known record from bark of this quite common species.

**Usnea hirta (L.) Weber ex F. H. Wigg.**

Oesling: 2 km N of Bigonville, Moulin de Bigonville, NW of Hotel, N and S slope (K7.47/GR.00.25), 2.5.1992, on *Quercus*, Aptroot 28927; Bockholz-lès-Hosingen, vallon du Lellgerbaach (K8.14/KA.85.40), on *Quercus*, 11.10.1986, Diederich 7683, 7694; Hoscheid, Molberlay, (K8.24/KA.90.35), on *Quercus*, 2.5.1987, Diederich 7939.

Koltz (1897: 103) states that this species is common in the mountains, but this results most probably from the confusion with other *Usnea* species. No specimen has been found in LUX. The species should be considered as new for Luxembourg.

**Verrucaria margacea (Wahlenb.) Wahlenb.**

Oesling: 1 km E of Esch-sur-Sûre, near tunnel and road N15 (K8.32/GR.10.30), 2.5.1992, Brand 27173.

New for Luxembourg.

**Verrucaria muralis Ach.**

Gutland: Berdorf, camping on road to Consdorf (L9.11/LA.05.20), on wood, 30.4.1992, Aptroot 28653.

This common saxicolous lichen has been collected once on wood.

**Verrucaria viridula (Schrad.) Ach.**

Oesling: 9 km WSW of Clervaux, Hamiville, E of village, wall along churchyard and grave-stone (J8.41/GR.05.45), 2.5.1992, van den Boom 12458.

This species has been mentioned by Koltz (1897: 306, sub *Lithoidea viridula*) from Luxembourg, but, in the absence of herbarium specimens, this record must be regarded as most doubtful.

New for Luxembourg.

**List of all taxa collected or observed**

**Explanation of locality numbers**

- 1: Gutland, 1 km SE of Berdorf, Aesbech (L9.12/LA.10.20), alt. 280 m, valley with N and S sandstone rock-faces, with *Carpinus*, *Fagus* and *Quercus*, 30.4.1992.
- 2: Gutland, 2 km W of Berdorf, Vugelsmillen (L9.11/LA.05.20), *Tilia* along parking, trees along stream, alt. 190 m, 30.4.1992.

- 3: Gutland, Berdorf, 0.5 km SW of centre, along road to Consdorf (L9.11/LA.05.20), *Pyrus* in meadow, wall, camping with *Malus* and wood, alt. 370 m, 30.4.1992.
- 4: Gutland, 1.5 km SW of Berdorf, Binzeltschloeff, W of road (L9.11/LA.05.20), sandstone rocks, *Fagus*, *Pinus* and *Quercus*, alt. 340 m, 30.4.1992.
- 5: Gutland, 1.5 km SW of Berdorf, Predigtstuhl, E of road (L9.11/LA.05.20), sandstone rocks, *Fagus*, *Pinus* and *Quercus*, alt. 350 m, 30.4.1992.
- 6: Gutland, 1.5 km SW of Berdorf, Binzeltschloeff, near the road (L9.11/LA.05.20), sandstone rocks, alt. 340 m, 30.4.1992.
- 7: Gutland, 1 km E of Manternach, N of road C. R. 134, S exp. slope (L9.43/LA.15.10), calcareous sandstone and trees, alt. 200 m, 1.5.1992.
- 8: Gutland, 2 km SW of Grevenmacher, SE slope (L9.53/LA.10.00), calcareous sandstone and wall along a field, alt. 190 m, 1.5.1992.
- 9: Gutland, 0.5-1 km SE of Beaufort, valley along Haupeschaach (K8.58/LA.05.20), sandstone rockfaces with *Fagus*, *Quercus*, etc., alt. 290 m, 1.5.1992.
- 10: Gutland, 0.2 km S of Beaufort, S of the castle, along pond and path from Haupeschaach (K8.58/LA.05.20), big boulder and *Sambucus*, alt. 310 m, 1.5.1992.
- 11: Gutland, 0.6 km NW of Berdorf, near the churchyard (K9.51/LA.05.20), low and high wall along churchyard and *Salix*, alt. 360 m, 1.5.1992.
- 12: Oesling, 1 km E of Esch-sur-Sûre, near tunnel and road N15 (K8.32/GR.10.30), E exp. rock-face, wall along stairs and top of the hill above tunnel, alt. 300 m, 2.5.1992.
- 13: Oesling, 2 km N of Bigonville, Moulin de Bigonville, NW of Hotel (K7.47/GR.00.25), N and S slope with *Fagus*, *Quercus*, *Sambucus*, etc., alt. 340 m, 2.5.1992.
- 14: Oesling, 2 km N of Bigonville, Moulin de Bigonville, S of Hotel, roadside (K7.47/GR.00.25), *Betula*, *Populus*, *Quercus*, *Sambucus*, etc., alt. 330 m, 2.5.1992.
- 15: Oesling, 2 km N of Bigonville, Moulin de Bigonville, E of Hotel (K7.47/GR.00.25), W slope with schist rocks in stream, alt. 330 m, 2.5.1992.
- 16: Oesling, 9 km WSW of Clervaux, Hamiville, E of village (J8.41/GR.05.45), wall along churchyard and gravestone, alt. 500 m, 2.5.1992.
- 17: Oesling, 6 km NW of Clervaux, Asselborn (J8.32/GR.10.50), wall of church and wall along churchyard, alt. 460 m, 2.5.1992.
- 18: Oesling, 10 km N of Clervaux, Wilwerdange (J8.23/KA.85.55), shaded wall of church, alt. 510 m, 2.5.1992.
- 19: Oesling, 15 km W of Ettelbruck, 2.5 km NE of Rambrouch (K8.51/GR.05.25), *Tilia* along road on plateau, alt. 540 m, 3.5.1992.
- 20: Oesling, 8 km W of Ettelbruck, 1 km E of Grosbous (K8.53/GR.10.20), old *Fraxinus* in arable fields, alt. 340 m, 3.5.1992.
- 21: Gutland, 1 km SE of Berdorf, Aesbech (L9.12/LA.10.20), shaded sandstone rock with *Fagus* and *Quercus* trees in wooded gorge, alt. 300 m, 3.5.1992.
- 22: Gutland, SW of Berdorf, Weerschumschloeff (L9.11/LA.05.20), flattened top of sandstone rocks, with *Calluna* in wooded NW slope, alt. 325 m, 3.5.1992.

- 23: Oesling, 5 km N of Diekirch, Brandenburg, ruins of castle (K8.35/KA.90.30), schistose stones (native rock) of ruins, top of wall and W or S exposed wall, alt. 300 m, 3.5.1992.
- 24: Oesling, 5 km N of Diekirch, 1 km W of Brandenburg, valley of Bleeps (K8.35/KA.90.30), *Populus* and *Salix* in marsh near brook, alt. 300 m, 3.5.1992.
- 25: Oesling, 7 km N of Diekirch, 2 km NW of Brandenburg, road fork to Gralingen and Nachtmanderscheid (K8.35/KA.90.30), rocky ridge in open *Quercus* wood with small trees, alt. 300 m, 3.5.1992.

### Abbreviations

Ac = *Acer*, Al = *Alnus*, B = *Betula*, Car = *Carpinus*, Co = *Corylus*, F = *Fagus*, Fr = *Fraxinus*, M = *Malus*, P = *Populus*, Pyr = *Pyrus*, Q = *Quercus*, T = *Tilia*  
 c = calcareous rock, s = siliceous rock (sandstone or schist)  
 t = terricolous, m = moss, w = wood

\* = lichenicolous fungus

(f) = fertile

Indications of herbaria where material is deposited:

(A) = herb. A. Aptroot,  
 (B) = herb. P. P. G. v. d. Boom,  
 (Br) = herb. A. M. Brand,  
 (D) = herb. P. Diederich,  
 (S) = herb. L. Spier.

Data without a collector name are field observations.

### Species list

<i>Acarospora fuscata</i> (Schrad.) Th. Fr.	12s(D) 15s(A,B)
<i>Acrocordia gemmata</i> (Ach.) Massal.	2T(A) 21(Br)
<i>Agonimia tristicula</i> (Nyl.) Zahlbr.	12c,m(B,Br)
<i>Anisomeridium nyssaegenum</i> (Ellis & Everh.) R. C. Harris	see above
<i>Arthonia didyma</i> Körb.	2T(B) 7Fr(A,D) 14(Br)
<i>Arthonia punctiformis</i> Ach.	see above
<i>Arthonia radiata</i> (Pers.) Ach.	1Q 2T(S) 12Fr(B) 12Sorbus 13Car(B)
<i>Arthonia spadicea</i> Leight.	1F 7F
<i>Arthonia vinosa</i> Leight.	1Q 9Q(A,S)
<i>Arthopyrenia lapponina</i> Anzi	12Q(B,D), Sorbus(A,B)
<i>Arthopyrenia punctiformis</i> (Pers.) Massal.	see above
<i>Arthothelium ruanum</i> (Massal.) Körb.	2T(A)
<i>Aspicilia aquatica</i> Körb.	see above
<i>Aspicilia caesiocinerea</i> (Nyl. ex Malbr.) Arnold	see above
<i>Aspicilia calcarea</i> (L.) Mudd	8c(B) 16c
<i>Aspicilia contorta</i> (Hoffm.) Kremp.	3c 11c
<i>Bacidia arceutina</i> (Ach.) Arnold	2P(A,B) 24(Br)

<i>Bacidia arnoldiana</i> Körb.	7Cornus(A)
<i>Bacidia biatorina</i> (Körb.) Vain.	21(Br)
<i>Bacidia caligans</i> (Nyl.) A. L. Sm.	10Sambucus(B,D)
<i>Bacidia delicata</i> (Larbal. ex Leight.) Coppins	9Q(A)
<i>Bacidia fuscoviridis</i> (Anzi) Lettau	see above
<i>Bacidia hemipolia</i> (Nyl.) Malme	12Q(B,D)
<i>Bacidia rubella</i> (Hoffm.) Massal.	13Q(A,B)
<i>Bacidia vezdae</i> Coppins & P. James	9Q(A) 21(Br)
<i>Bacidia viridifarinosa</i> Coppins & P. James	1Q(A)
<i>Bacidia caligans</i> (Nyl.) Sérusiaux & Diederich	see above
<i>Baeomyces rufus</i> (Huds.) Rebent.	1s 5t
<i>Biatora sphaeroides</i> (Dicks.) Körb.	21
* <i>Bispora christiansenii</i> D. Hawksw.	3w(A) (on <i>Strangospora moriformis</i> )
<i>Buellia aethalea</i> (Ach.) Th. Fr.	see above
<i>Buellia disciformis</i> (Fr.) Mudd	4F(A)
<i>Buellia griseovirens</i> (Turner & Borrer ex Sm.) Almb.	1F(B,S) 2Co(A),T 3w(A) 7Fr 19T 24
<i>Buellia punctata</i> (Hoffm.) Massal.	2T 3Pyr 13Q 16s(B) 20Fr 23s
<i>Calicium adpersum</i> Pers.	1Q(A,B)
<i>Calicium glaucellum</i> Ach.	5w(A,B,D,S) 12w(S)
<i>Calicium lichenoides</i> (L.) Schum. (= <i>C. salicinum</i> Pers.)	2T(A,S) 5Q(A)
<i>Caloplaca cerina</i> (Ehrh. ex Hedwig) Th. Fr.	2P(A)
<i>Caloplaca chlorina</i> (Flot.) H. Olivier	see above
<i>Caloplaca chrysoleta</i> (Vainio ex Räs.) Dombr.	1s,m(B,S) 6s(B) 9s(A,Br)
<i>Caloplaca citrina</i> (Hoffm.) Th. Fr.	3c 7c,Fr(A) 8c(B) 9s 11c 12c(B)
<i>Caloplaca decipiens</i> (Arnold) Blomb. & Forssell	see above
<i>Caloplaca flavescens</i> (Huds.) Laundon	3c 11c
<i>Caloplaca flavovirescens</i> (Wulfen) Dalla Torre & Sarnth.	see above
<i>Caloplaca lithophila</i> H. Magn.	16
<i>Caloplaca obscurella</i> (Körb.) Th. Fr.	2P,T(f)(A,B,S) 7Fr(B)
<i>Caloplaca saxicola</i> (Hoffm.) Nordin	16c 17c 23s(Br)
<i>Caloplaca subpallida</i> H. Magn.	see above
<i>Caloplaca teicholyta</i> (Ach.) Steiner	see above
<i>Caloplaca variabilis</i> (Pers.) Müll. Arg.	11c(B,S)
<i>Caloplaca vitellinula</i> auct., non (Nyl.) H. Olivier	see above
<i>Candelaria concolor</i> (Dicks.) Stein	20Fr(Br)
<i>Candelariella aurella</i> (Hoffm.) Zahlbr.	see above
<i>Candelariella coralliza</i> (Nyl.) H. Magn.	4s(A) 12s(A,S)
<i>Candelariella medians</i> (Nyl.) A. L. Sm.	see above
<i>Candelariella reflexa</i> (Nyl.) Lettau	1F 2P,T(A) 3M(A) 7Fr 13
<i>Candelariella vitellina</i> (Hoffm.) Müll. Arg.	3w(A) 11s 13 15s 16s
<i>Candelariella xanthostigma</i> (Ach.) Lettau	2T(S) 3M(A)
<i>Catillaria atomarioides</i> (Müll. Arg.) H. Kiliias	see above
<i>Catillaria chalybeia</i> (Borrer) Massal.	see above
<i>Catillaria globulosa</i> (Flörke) Th. Fr.	13Q(B,D)
<i>Chaenotheca chrysocephala</i> (Turner ex Ach.) Th. Fr.	14Crataegus(B)
<i>Chaenotheca ferruginea</i> (Turner & Borrer) Mig.	2T 7Q(S) 13Q
<i>Chaenotheca furfuracea</i> (L.) Tibell	9s,Q(A,B,S) 12s(S) 14s(B)
<i>Chaenotheca trichialis</i> (Ach.) Th. Fr.	5Q(A) 9Q
<i>Chrysothrix candelaris</i> (L.) Laundon	2T(S) 5Q 13Q
<i>Chrysothrix chlorina</i> (Ach.) Laundon	4s(S) 9s 12s(A) 15s



<i>Cladina arbuscula</i> (Wallr.) Hale & Culb.	12s(A) 13s(A)
<i>Cladonia arbuscula</i> (Wallr.) Flot. ssp. <i>mitis</i> (Sandst.) Ruoss	12t(Br) 13(Br) 25(Br)
<i>Cladonia borealis</i> S. Stenroos	see above
<i>Cladonia caespiticia</i> (Pers.) Flörke	9s(A) 25(Br)
<i>Cladonia cervicornis</i> (Ach.) Flot. ssp. <i>verticillata</i> (Hoffm.) Ahti	15s(B) 22
<i>Cladonia ciliata</i> Stirton var. <i>ciliata</i>	12s(A,Br)
<i>Cladonia coccifera</i> (L.) Willd.	4s(A) 12t 13t(B) 15t 23
<i>Cladonia coniocraea</i> (Flörke) Spreng.	25(Br)
<i>Cladonia digitata</i> (L.) Hoffm.	4s,Q 9s(A)
<i>Cladonia fimbriata</i> (L.) Fr.	25(Br)
<i>Cladonia floerkeana</i> (Fr.) Flörke	11c,m 13t 15t
<i>Cladonia foliacea</i> (Huds.) Willd.	15t(D)
<i>Cladonia furcata</i> (Huds.) Schrad. ssp. <i>furcata</i>	5t 13t(Br) 23(Br) 25(Br)
<i>Cladonia glauca</i> Flörke	4t 12t
<i>Cladonia gracilis</i> (L.) Willd.	5t 13t(D)(f) 15t
<i>Cladonia grayi</i> G. Merr. ex Sandst. s.l. 9(Br) 12(Br) 13(Br) 22(Br) 25(Br)	see above
<i>Cladonia macilenta</i> Hoffm.	3s(A)
<i>Cladonia ochrochlora</i> Flörke	9Q(A)
<i>Cladonia pocillum</i> (Ach.) Grognot	12s(A)
<i>Cladonia polydactyla</i> (Flörke) Spreng.	4Q
<i>Cladonia portentosa</i> (Dufour) Coem.	12s(A)
<i>Cladonia pyxidata</i> (L.) Hoffm.	12s(Br) 23(Br)
<i>Cladonia ramulosa</i> (With.) Laundon	13t 22t 16t
<i>Cladonia rangiferina</i> (L.) Weber ex F. H. Wigg.	12s(A,Br,D)
<i>Cladonia rangiformis</i> Hoffm.	4t 12t
<i>Cladonia squamosa</i> Hoffm.	12t 13t
<i>Cladonia strepsilis</i> (Ach.) Grognot	see above
<i>Cladonia subulata</i> (L.) Weber ex F. H. Wigg.	4t 12t 13t
<i>Cladonia uncialis</i> (L.) Weber ex F. H. Wigg.	4t 12t(A,D) 13t(A,D)
<i>Coelocaulon aculeatum</i> (Schreb.) Link	13t
<i>Coelocaulon muricatum</i> (Ach.) J. R. Laundon	13s(D)
<i>Collema auriforme</i> (With.) Coppins & Laundon	23(Br)
<i>Collema crispum</i> (Huds.) Weber ex F. H. Wigg.	3t 11c(B,S) 14m(S)
<i>Collema flaccidum</i> (Ach.) Ach.	15s
<i>Collema tenax</i> (Sw.) Ach. em. Degel.	3t
* <i>Cornutispora lichenicola</i> D. Hawksw. & B. Sutton	9Q(B,D) (on <i>Pertusaria pertusa</i> )
<i>Cresponea premnea</i> (Ach.) Egea & Torrente var. <i>saxicola</i> (Leight.) Egea & Torrente	see above
<i>Cystocoleus ebeneus</i> (Dillwyn) Thwaites	1s(A) 10s
<i>Dermatocarpon luridum</i> (With.) Laundon	15s(Br)
<i>Dermatocarpon miniatum</i> (L.) W. Mann	7c(A,S)
<i>Dibaeis baeomyces</i> (L. fil.) Rambold & Hertel (= <i>Baeomyces roseus</i> Pers.)	5s,m(S)
<i>Dimerella pineti</i> (Ach.) Vezda	1stump 2Car 4Q(B) 7Cornus mas 12Q(D) 13F(A)
<i>Diploschistes muscorum</i> (Scop.) R.Sant.	13t,m
<i>Diploschistes scruposus</i> (Schreb.) Norman	4s(A,S) 11s(S) 12s(A,S) 13s 15s(Br)
<i>Diplotomma ambiguum</i> (Ach.) Flagey	see above
<i>Diplotomma dispersum</i> (Krempelh.) Arnold	see above
<i>Dirina massiliensis</i> Durieu & Mont. f. <i>sorediata</i> (Müll. Arg.) Tehler	see above
<i>Endocarpon pallidum</i> Ach.	see above
<i>Enterographa hutchinsiae</i> (Leight.) Massal.	see above

<i>Enterographa zonata</i> (Körb.) Källsten	15s 21s(Br) 22s(Br)
<i>Evernia prunastri</i> (L.) Ach.	1Ac 3M(A) 4F 12Q 13Q 20Fr
<i>Flavoparmelia caperata</i> (L.) Hale	2Al 4F 11s 12s(A,S)
<i>Fuscidea cyathoides</i> (Ach.) V. Wirth & Vezda	4F
<i>Fuscidea lightfootii</i> (Sm.) Coppins & P. James	see above
<i>Graphis scripta</i> (L.) Ach	1Car 2T 9Ac(A,B,D) 21
<i>Gyalecta flotowii</i> Körb.	see above
<i>Gyalecta jenensis</i> (Batsch) Zahlbr.	1s 9s
<i>Gyalideopsis anastomosans</i> P. James & Vezda	2Al 9s
<i>Haematomma ochroleucum</i> (Neck.) Laundon var. <i>ochroleucum</i>	1s(A) 9s(f)(A) 11s 12s(B) 22s
<i>Haematomma ochroleucum</i> var. <i>porphyrium</i> (Pers.) Laundon	2T(S) 22s
<i>Halecania viridescens</i> Coppins & P. James	1w(A) 2Car(B) 9Q(A,B,D) 10 12(Br) 14 24(Br)
<i>Hymenella lacustris</i> (With.) M. Choisy	12s(Br)
<i>Hypocenomys scalaris</i> (Ach.) M. Choisy	4Pinus
<i>Hypogymnia physodes</i> (L.) Nyl.	1Ac 3M(A) 10s 12Q(D)(f) 13Q(f) 19T 20Fr
<i>Hypogymnia tubulosa</i> (Schaer.) Hav.	2Fr 13Q
<i>Hypotrachyna revoluta</i> (Flörke) Hale	4F
<i>Imshaugia aleurites</i> (Ach.) S. L. F. Meyer	4Pinus
<i>Lasallia pustulata</i> (L.) Mérat	4s 11s 12s(A) 13s(D)
<i>Lecanactis abietina</i> (Ach.) Körb.	4Q 9Picea(f)(A,S) 21
<i>Lecanactis latebrarum</i> (Ach.) Arnold	4s(B) 5Q(A) 12s(A,B,D) 22s
<i>Lecania cuprea</i> (Massal.) v. d. Boom & Coppins	7c(B)
<i>Lecania cyrtella</i> (Ach.) Th. Fr.	2T(S) 13P(S) 14Sambucus(B,Br)
<i>Lecania erysibe</i> (Ach.) Mudd	17c 18c(B) 23c
<i>Lecania inundata</i> (Körb.) M. Mayrhofer	11c(B,S)
<i>Lecania naegelii</i> (Hepp) Diederich & v. d. Boom	see above
<i>Lecania rabenhorstii</i> (Hepp) Arnold	3c
<i>Lecania suavis</i> (Müll. Arg.) Mig.	see above
<i>Lecanora achariana</i> A. L. Sm.	see above
<i>Lecanora albella</i> (Pers.) Ach. (= <i>L. pallida</i> (Schreb.) Rabenh.)	9F(A)
<i>Lecanora albescens</i> (Hoffm.) Branth & Rostr.	3c,w(A) 7c(A) 11c 12s(A) 16c 17c 18c
<i>Lecanora argentata</i> (Ach.) Malme	1Car 12T(A) 21
<i>Lecanora campestris</i> (Schaer.) Hue	3s 11s(Br,S) 15s(B)
<i>Lecanora carpinea</i> (L.) Vainio	1Car(S) 2P,T(S) 3M(A) 7Fr(A)
<i>Lecanora chlorotera</i> Nyl.	1Car(S) 13Car 20Fr
<i>Lecanora conizaeoides</i> Nyl. ex Crombie	1F 3M(A) 4Pinus(A) 13Q
<i>Lecanora crenulata</i> Hook.	see above
<i>Lecanora dispersa</i> (Pers.) Sommerf.	3c(A) 11c 16c 18c 23c
<i>Lecanora expallens</i> Ach.	1Car,Q(A) 2T(A,B) 3M,Pyr(A) 13Q(B)
<i>Lecanora gangaleoides</i> Nyl.	see above
<i>Lecanora hagenii</i> (Ach.) Ach.	3w(A)
<i>Lecanora intumescens</i> (Rebent.) Rabenh.	9F(A)
<i>Lecanora muralis</i> (Schreb.) Rabenh.	3c 15s(B) 16c 17c
<i>Lecanora orosthea</i> (Ach.) Ach.	see above
<i>Lecanora piniperda</i> Körb.	13Sarothamnus(B)
<i>Lecanora polytropa</i> (Ehrh. ex Hoffm.) Rabenh.	3s(A) 12s(A) 13s(A) 14s 16s(A)
<i>Lecanora pulicaris</i> (Pers.) Ach.	3M(A) 12Q(B) 15Al 19T
<i>Lecanora rupicola</i> (L.) Zahlbr. ssp. <i>rupicola</i>	4s(A) 12s(B) 15s(B)

<i>Lecanora saligna</i> (Schad.) Zahlbr.	2P 3Pyr 13P(S) 14P(B,Br) 20Fr
<i>Lecanora subcarnea</i> (Lilj.) Ach.	12s(A)
<i>Lecanora subcarpineae</i> Szatala	see above
<i>Lecanora sulphurea</i> (Hoffm.) Ach.	12s(A) 15s
<i>Lecanora swartzii</i> (Ach.) Ach.	see above
<i>Lecanora symmicta</i> (Ach.) Ach.	13Sarthamnus
<i>Lecanora umbrina</i> (Ehrh.) Massal.	3w(A)
<i>Lecanora varia</i> (Hoffm.) Ach.	3w(A)
<i>Lecidea fuscoatra</i> (L.) Ach. var. <i>fuscoatra</i>	11s 12s(A,D,S) 13s(A) 15s(D,S) 16s
<i>Lecidea fuscoatra</i> var. <i>grisella</i> (Flörke) Nyl.	11(S)
<i>Lecidea pycnocarpa</i> (Körb.) Ohlert	see above
<i>Lecidella elaeochroma</i> (Ach.) M. Choisy	2T(S) 7Car(S) 13Fr(A) 20Fr
<i>Lecidella elaeochroma</i> f. <i>soralifera</i> (Erichsen) D.Hawksw.	2T(A)
<i>Lecidella scabra</i> (Taylor) Hertel & Leuckert	see above
<i>Lecidella stigmataea</i> (Ach.) Hertel & Leuckert	see above
<i>Lempholemma polyanthes</i> (Bernh.) Malme	see above
<i>Lepraria caesioalba</i> (B. de Lesd.) Laundon	4s(A,B,S) 11m(S) 12s(A) 13m(Br,D) 15s(B,Br) 23s(Br)
<i>Lepraria crassissima</i> (Hue) Lettau	see above
<i>Lepraria incana</i> (L.) Ach.	
	1Car 2T 3Pyr 4s(A) 6s 7Fr 9Picea(A,Br,S) 10s(A) 11(S) 13Q 21(Br)
<i>Lepraria lesdainii</i> (Hue) R. C. Harris	1s,t(A,B) 9s(A,B)
<i>Lepraria lobificans</i> Nyl.	
	2T(A) 9s(A,B,Br) 12s(A) 13Q(B,Br) 14Sambucus(B) 21(Br)
<i>Lepraria rigidula</i> (B. de Lesd.) Tønsberg	2T(A) 12(A,Br) 14P(B) 24(Br)
<i>Leprocaulon microscopicum</i> (Vill.) Gams	12s(A,D,S)
<i>Leproloma membranaceum</i> (Dicks.) Vain.	
	4s,Pinus(A) 10s 12s,Q(A,Br) 13F(Br) 15s(B) 23(Br)
<i>Leproloma vouauxii</i> (Hue) Laundon	3m(B) 12s 23s(Br)
<i>Leptogium cyanescens</i> (Rabenh.) Körb.	12(Br)
<i>Leptogium gelatinosum</i> (With.) Laundon	12c(A,B,S) 23c
<i>Leptogium lichenoides</i> (L.) Zahlbr.	4m(S) 12c(A) 21(Br)
<i>Leptogium plicatile</i> (Ach.) Leight.	23c(Br)
<i>Leptogium schraderi</i> (Bernh.) Nyl.	11c(B,S)
<i>Leptogium teretiunculium</i> (Wallr.) Arnold	see above
* <i>Lichenostigma elongata</i> Nav.-Ros. & Hafellner	see above
* <i>Lichenostigma rugosa</i> Thor	11(Br) 12s(A) 13s(D) (on <i>Diploschistes scruposus</i> )
<i>Lobothallia radiosa</i> (Hoffm.) Hafellner	11c
<i>Macentina stigonemoides</i> Orange	see above
<i>Melanelia disjuncta</i> (Erichsen) Essl.	see above
<i>Melanelia exasperatula</i> (Nyl.) Essl.	2Car 3M(A) 11 20
<i>Melanelia glabratula</i> (Lamy) Essl. ssp. <i>fuliginosa</i> (Fr. ex Duby) Laundon	4s 12s(A)
<i>Melanelia glabratula</i> ssp. <i>glabratula</i>	1Car 2T 7Fr 9s 12Q 21
<i>Micarea botryoides</i> (Nyl.) Coppins	1s(B) 4s 9s(A,B) 21(Br)
<i>Micarea curvata</i> Coppins	see above
<i>Micarea denigrata</i> (Fr.) Hedl.	3w(A) 11(Br) 14(B)
<i>Micarea hedlundii</i> Coppins	see above
<i>Micarea leprosula</i> (Th.Fr.) Coppins & A. Fletcher	13m(D,S) 15s(B)
<i>Micarea lignaria</i> (Ach.) Hedl. s.s.	
	1s(A,S) 4s,Pinus(A,B,S) 9s(A) 10s,m 11 14(Br) 15s(B)
<i>Micarea lithinella</i> (Nyl.) Hedl.	12s(B)

- Micarea nitschkeana* (J. Lahm ex Rabenh.) Harm. 15Al(Br)  
*Micarea peliocarpa* (Anzi) Coppins & R. Sant.  
     1s(A,S) 4s(A) 5Q(B) 6s(B) 9s(A,B,S) 11 12s(A) 13Q(A) 15s(D) 21 23s(Br)  
*Micarea prasina* Fr. 1stump 4F(A) 9F,Q(A,Br) 12m(A) 13F 14P(A) 21 24  
*Micarea pycnidiphora* Coppins & P. James see above  
 \**Microcalicium arenarium* (Hampe ex Massal.) Tibell  
     9s(B) 14s (on *Psilolechia lucida*)  
 \**Muellerella pygmaea* (Körb.) D. Hawksw. 12s(A,D) (on *Lecidea fuscoatra*)  
*Mycobilimbia sabuletorum* (Schreb.) Hafellner 1Q(A) 4s(A) 8m(S) 9c(A) 12m(A) 21  
*Mycoblastus fucatus* (Stirt.) Zahlbr. (= *M. sterilis* Coppins & P. James)  
     1F(A) 2Al(A,S) 4F 13Car(A) 19T  
*Neofuscelia loxodes* (Nyl.) Essl. see above  
*Neofuscelia pulla* (Ach.) Essl. 15s(Br)  
*Neofuscelia verruculifera* (Nyl.) Essl. 11s(B,Br,S) 12s(A,S) 15s(Br)  
*Ochrolechia androgyna* (Hoffm.) Arnold 9s,Q,F(A) 12s(A) 13Q(A) 23s  
*Ochrolechia parella* (L.) Massal. see above  
*Ochrolechia subviridis* (Høeg) Erichsen 13Q(A,B)  
*Omphalina hudsoniana* (H. S. Jenn.) H. E. Bigelow see above  
*Omphalina umbellifera* (L.) Quélet (= *O. ericetorum* (Fr.) M.Lange) 4t(A,D) 9s(B)  
*Opegrapha atra* Pers. 2T(S) 7Fr  
*Opegrapha lithyrga* Ach. see above  
*Opegrapha mougeotii* Massal. 9s(A,B,Br)  
*Opegrapha varia* Pers. (= *O. lichenoides* Pers.) 2T(B,S) 4Q(B) 13Q(B)  
*Opegrapha vermicellifera* (Kunze) Laundon 1F(B,S) 9s(A) 21  
*Opegrapha viridis* (Pers. ex Ach.) Behlen & Desberger 9F,T(A,B,Br) 12Fr(A) 21  
*Opegrapha vulgata* Ach. var. *subsiderella* Nyl. (= *O. niveoatra* (Borrer) Laundon)  
     1F(B) see above  
*Pachyphiale fagicola* (Hepp) Zwackh see above  
*Parmelia saxatilis* (L.) Ach. 1F 3M(A) 4t 11s(S) 12s 15s 19T  
*Parmelia sulcata* Taylor 1F 2T 3M(A) 12Q 13Car 14P(f)  
*Parmeliella triptophylla* (Ach.) Müll. Arg. see above  
*Parmelina pastillifera* (Harm.) Hale 20Fr  
*Parmelina tiliacea* (Hoffm.) Hale 3M(A) 20Fr  
*Parmeliopsis ambigua* (Wulfen) Nyl. 1F 2Al 4F 13Car 19T  
*Peltigera horizontalis* (Huds.) Baumg. 9Q(A) 12s(A,S)  
*Peltigera praetextata* (Flörke ex Sommerf.) Zopf 1s(A,S) 2Fr 7F 12s(A) 21  
*Pertusaria albescens* (Huds.) M. Choisy & Werner 2P,T(S) 3M(A) 13Q(A) 20  
*Pertusaria amara* (Ach.) Nyl. 1F 2T 9s(A) 12Q 13F 21  
*Pertusaria coccodes* (Ach.) Nyl. 13F(A,D) 20  
*Pertusaria corallina* (L.) Arnold 4s(A) 9s(A) 10s(Br) 11s 12s(A) 14s 15s  
*Pertusaria flavida* (DC.) Laundon 4F(A,S) 9Q(A) 21  
*Pertusaria hemisphaerica* (Flörke) Erichsen 1F(A,S) 9(Br) 21  
*Pertusaria hymenea* (Ach.) Schaerer 1Ac,F(A,B) 2T(S) 9F(S)  
*Pertusaria lactea* (L.) Arnold 12s(B,S) 15s(Br)  
*Pertusaria leioplaca* DC. 1Car(S) 2T 13Car  
*Pertusaria pertusa* (Weigel) Tuck 1F(S) 6s(B) 9(A,Br) 21  
*Pertusaria pupillaris* (Nyl.) Th. Fr. 13Car(D),F(A,B)  
*Phaeophyscia nigricans* (Flörke) Moberg 3c 11c  
*Phaeophyscia orbicularis* (Neck.) Moberg 2P,T(S) 3M(A) 11c 17c  
 \**Pharcidia coniodes* Nyl. see above  
*Phlyctis agelaea* (Ach.) Flot. see above

<i>Phlyctis argena</i> (Spreng.) Flot.	1Car,F(S) 2Al(S) 3M(A) 7Fr 13Car 21(Br) 24
<i>Physcia ascendens</i> (Fr.) H. Olivier	3M(A) 4F
<i>Physcia caesia</i> (Hoffm.) Fűrnr.	3c 11c 17c
<i>Physcia dubia</i> (Hoffm.) Lettau	3s 13s(A,B)
<i>Physcia tenella</i> (Scop.) DC.	3M(A)
<i>Physcia tribacia</i> (Ach.) Nyl.	23s(Br)
<i>Physconia distorta</i> (With.) Laundon	13Fr(A) 14P
<i>Physconia enteroxantha</i> (Nyl.) Poelt	11 Salix(B) 20Fr
<i>Physconia grisea</i> (Lam.) Poelt	3M,Pyr,s(A)
<i>Physconia perisidiosa</i> (Erichsen) Moberg	2Al(A) 3M(A) 13Q(A)
<i>Placynthiella icmalea</i> (Ach.) Coppins & P. James	2Al 3w(A) 4t 9m(A) 10s 12m(A) 13t 24
<i>Placynthium nigrum</i> (Huds.) Gray	11c(S) 12c
<i>Platismatia glauca</i> (L.) W. L. Culb. & C. F. Culb.	2Fr 4Pinus 13Car,Q(S) 19T
<i>Pleurosticta acetabulum</i> (Neck.) Elix & Lumbsch	3M(A) 20Fr
<i>Polysporina simplex</i> (Davies) Vezda	see above
<i>Porina aenea</i> (Wallr.) Zahlbr.	1Car 2Car,T(B,S) 7Cornus mas(B,D)
<i>Porina chlorotica</i> (Ach.) Müll. Arg.	see above
<i>Porina leptalea</i> (Durieu & Mont.) A. L. Sm.	7Cornus mas(A) 9Ac(A,B) 21
<i>Porpidia macrocarpa</i> (DC.) Hertel & A. J. Schwab	4s(A)
<i>Porpidia tuberculosa</i> (Sm.) Hertel & Knoph	4s(A) 9s(A) 11 12s(B) 13s(B,D) 15s
<i>Protoblastenia rupestris</i> (Scop.) J. Steiner	8c(A,S) 9c 12c
<i>Protoparmelia badia</i> (Hoffm.) Hafellner	see above
<i>Pseudevernia furfuracea</i> (L.) Zopf	3M(A) 4Pinus 13Q 19T 20Fr
<i>Psilolechia clavulifera</i> (Nyl.) Coppins	see above
<i>Psilolechia lucida</i> (Ach.) M. Choisy	1s 12s 14s
<i>Punctelia subrudecta</i> (Nyl.) Krog	2P
<i>Pyrenula nitida</i> (Weigel) Ach.	1F(A,S) 9F(S) 21
<i>Pyrrhospora quernea</i> (Dicks.) Körb.	4Q(B) 13Q
<i>Racodium rupestre</i> Pers.	9s(A) 21s
<i>Ramalina farinacea</i> (L.) Ach.	2T 13Fr(A) 14(Br) 20Fr 24(Br)
<i>Ramalina fastigiata</i> (Pers.) Ach.	20Fr
<i>Ramalina fraxinea</i> (L.) Ach.	20Fr
<i>Ramalina pollinaria</i> (Westr.) Ach.	22s
<i>Rhizocarpon badioatrum</i> (Flörke ex Sprengel) Th. Fr.	see above
<i>Rhizocarpon distinctum</i> Th. Fr.	see above
<i>Rhizocarpon geminatum</i> Körb.	see above
<i>Rhizocarpon geographicum</i> (L.) DC. s.l.	12s(A,D,S) 15s(D,S)
<i>Rhizocarpon lecanorinum</i> Anders	12s(A) 13s(D)
<i>Rhizocarpon obscuratum</i> (Ach.) Massal.	12s(A,S) 13s(A,D) 23s(Br)
<i>Rhizocarpon viridiatrum</i> (Wulfen) Körb.	12(Br) 15s(B,Br)
<i>Rinodina gennarii</i> Bagl.	see above
<i>Rinodina griseosoralifera</i> Coppins	13m,Q(B)(TLC!)
<i>Rinodina interpolata</i> (Stirton) Sheard	see above
<i>Rinodina oxydata</i> (Massal.) Massal.	see above
<i>Ropalospora viridis</i> (Tønsberg) Tønsberg	2Co(A) 4F(A) 13Car
* <i>Roselliniopsis tartaricola</i> (Nyl.) Matzer	see above
<i>Sarcogyne regularis</i> Körb.	see above
<i>Schismatomma decolorans</i> (Turner & Borrer ex Sm.) Clauzade & Vezda	1Q(A) 6s(B) 9Q(A) 22(Br)
<i>Schismatomma umbrinum</i> (Coppins & P. James) P. M. Jørg. & Tønsberg	see above

<i>*Sclerococcum sphaerale</i> (Ach.) Fr.	13s 14s 15s(B,Br,D) (on <i>Pertusaria corallina</i> )
<i>Scoliciosporum chlorococcum</i> (Graewe ex Stenh.) Vezda	5F(B) 12Car(A) 13Q
<i>Scoliciosporum gallurae</i> Vezda & Poelt	see above
<i>Scoliciosporum pruinatum</i> (P. James) Vezda	9F(A,B,Br) 12(Br) 13Q(D)
<i>Scoliciosporum umbrinum</i> (Ach.) Arnold	3s,M(A) 4s 5w(B) 12s(A) 13s(D)
<i>Sphaerophorus globosus</i> (Huds.) Vain.	12Q,s(D)
<i>Sphaerophorus melanocarpus</i> (Sw.) DC.	5s(A,B,D,S)
<i>*Sphinctrina leucopoda</i> Nyl.	15s(B,Br,D) (on <i>Diploschistes scruposus</i> )
<i>Staurothele frustulenta</i> Vain.	see above
<i>Stenocybe pullatula</i> (Ach.) Stein	13AI(A)
<i>Strangospora moriformis</i> (Ach.) B. Stein	see above
<i>Strigula jamesii</i> (Swinscow) R. C. Harris	see above
<i>*Taeniotelella punctata</i> M. S. Christ. & D. Hawksw.	7Car,F(A,B) (on <i>Graphis scripta</i> )
<i>Tephromela atra</i> (Huds.) Hafellner	4s 9s(A) 12s 15s
<i>Tephromela grumosa</i> (Pers.) Hafellner & Roux	4s,F(f)
<i>Thelotrema lepadinum</i> (Ach.) Ach.	1Q(A) 4F 9F,Q(A,S) 21
<i>Toninia aromatica</i> (Sm.) Massal.	see above
<i>Trapelia coarctata</i> (Sm.) M. Choisy	1c 9s(A) 12s(A) 13s
<i>Trapelia involuta</i> (Taylor) Hertel	4s(B) 6s 11s(B) 12s(S) 13s(B,S)
<i>Trapelia obtegens</i> (Th. Fr.) Hertel	see above
<i>Trapelia placodioides</i> Coppins & P. James	3s
<i>Trapeliopsis flexuosa</i> (Fr.) Coppins & P. James	1s(A) 3w(A)
<i>Trapeliopsis gelatinosa</i> (Flörke) Coppins & P. James	9m(A) see above
<i>Trapeliopsis granulosa</i> (Hoffm.) Lumbsch	4s 5s(B) 13m,t(D)
<i>Trapeliopsis pseudogranulosa</i> Coppins & P. James	4t(A,S) 10s 12t 13t
<i>*Tremella lichenicola</i> Diederich	4F(A) (on <i>Mycoblastus fucatus</i> )
<i>Umbilicaria polyphylla</i> (L.) Baumg.	4s
<i>Usnea florida</i> (L.) Weber ex F. H. Wigg.	13Q(A,B,S)
<i>Usnea fulvovirens</i> (Räsänen) Räsänen	13Q(D)
<i>Usnea hirta</i> (L.) Weber ex F. H. Wigg.	see above
<i>Usnea subfloridana</i> Stirt.	1Q(A) 2AI 13Q
<i>Verrucaria margacea</i> (Wahlenb.) Wahlenb.	see above
<i>Verrucaria muralis</i> Ach.	8s(A,B,S) see above
<i>Verrucaria nigrescens</i> Pers.	3c 11c(S) 12c(B) 16c 17c
<i>Verrucaria viridula</i> (Schrad.) Ach.	see above
<i>Vezdaea aestivalis</i> (Ohlert) Tscherm.-Woess & Poelt	1s(A,B)
<i>Xanthoparmelia conspersa</i> (Ach.) Hale	11s(S) 12s(A,S) 15s
<i>Xanthoparmelia mougeotii</i> (Schaer. ex D. Dietr.) Hale	4s(S) 11s 12s(A,S)
<i>Xanthoria candelaria</i> (L.) Th. Fr.	3M,Pyr(A) 14 18c(B,S) 20Fr
<i>Xanthoria elegans</i> (Link) Th. Fr.	3s 11s(S) 16c 17c
<i>Xanthoria fallax</i> (Hepp) Arnold	23s(Br)
<i>Xanthoria parietina</i> (L.) Th. Fr.	2w 3M(A) 20Fr
<i>Xanthoria polycarpa</i> (Hoffm.) Th. Fr. ex Rieber	3Pyr 13Sarthamnus

### Acknowledgements

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