Bull. Soc. Nat. luxemb., 95 (1994) p. 145-176

Report of a lichenological field meeting in Luxembourg

by

Pieter van den BOOM [1]), Maarten BRAND [2]), Paul DIEDERICH [3]),

André APTROOT [4]) and Emmanuël SÉRUSIAUX [5])

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 leptyrodes* and *Roselliniopsis tropica*, previously published from Luxembourg, do not seem to occur in this country, the corresponding specimens belonging to *E. hutchinsiae*, *L. subcarpinea* and *R. tartaricola*. The name *Lecanora subcarpinea* 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*.

[1]) Aziëlaan 12, 5691 LC Son, Netherlands.

[2]) Klipperwerf 5, 2317 DX Leiden, Netherlands.

[3]) Musée national d'histoire naturelle, Marché-aux-Poissons, L-2345 Luxembourg.

[4]) Centraalbureau voor Schimmelcultures, P. O. Box 273, 3740 AG Baarn, Netherlands.

[5]) Research Associate (F.N.R.S.), Université de Liège, Département de Botanique, Sart Tilman, B-4000 Liège, Belgium.

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 viridifarinosa*, *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*. *Vezdaea 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 Ernz 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 'Binzeltschloeff' 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 caesioalba*, *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 teretiusculum* 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 Haupeschbaach. 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 pycnidiophora*, *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 lightfootii*, *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*, *Melanelia 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 Weerschrumschloeff (close to the Predigtstuhl), two places visited already the first day. Several important discoveries were made: *Gyalecta 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 Brandenbourg 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.

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 km²) and in the UTM grid (squares of 5 x 5 km²). 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 Blees, 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 Haupeschbaach (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, Binzeltschloeff, 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, Huesegrond (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, Brandenbourg, 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, Brandenbourg, 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. Kilias

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, Brandenbourg, 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, Brandenbourg, 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 (Leigth.) Egea & Torrente

Synonym: *Lecanactis plocina* auct.

Gutland: SW of Berdorf, Weerschrumschloeff (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, Brandenbourg, ruins of castle (K8.35/KA.90.30), 3.5.1992, Brand 27256.

New for Luxembourg.

Diplotomma dispersum (Krempelh.) 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. sorediata (Müll. Arg.) Tehler

Gutland: SW of Berdorf, Weerschrumschloeff, 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 Haupeschbaach (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, Binzeltschloeff, 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 Haupeschbaach (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 confluentic 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, Binzeltschloeff, 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 Haupeschbaach (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, Weerschrumschloeff, 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 subcarpinea 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 carpinea* group with a PD+ orange thallus, which he called *Lecanora leptyrodes* (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. subcarpinea*. 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. subcarpinea* Szatala (= *L. nemoralis* auct.).

Lecanora subcarpinea is new for Luxembourg, whilst *L. leptyrodes* 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 Haupeschbaach (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, Schwaarzbur (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 calcarous 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_3 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 goniocysts and pycnidia covered with a thin whitish tomentum. The pycnidial wall is violet or violet-brown in KOH and reddish in HNO_3.

New for Luxembourg.

Micarea pycnidiophora Coppins & P. James

Gutland: 0.5-1 km SE of Beaufort, valley along Haupeschbaach (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, Weerschrumschloeff, 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, Weerschrumschloeff, 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, Binzeltschloeff, 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, Brandenbourg, 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 Haupeschbaach (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 Haupeschbaach (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 Haupeschbaach (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. & Tønsberg

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 Tønsberg (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 µm. 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 Tønsberg (1992), it has discrete soralia and its spores are distinctly curved to sigmoid and measure 20-30 x 2(-2.5) µm. 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 refered 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 obtegens (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 gravestone (J8.41/GR.05.45), 2.5.1992, van den Boom 12458.

This species has been mentioned by Koltz (1897: 306, sub *Lithoicea 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 Haupeschbaach (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 Haupeschbaach (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, Weerschrumschloeff (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, Brandenbourg, 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 Brandenbourg, valley of Blees (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 Brandenbourg, 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

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

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

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

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

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

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

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

Acknowledgements

The authors would like to thank the following lichenologists for checking critical specimens: Dr O. Breuss (*Endocarpon pallidum*), Dr I. Brodo (*Lecanora subcarpinea*), Dr B. J. Coppins (*Trapeliopsis gelatinosa*), Prof. P. M. Jørgensen (*Leptogium teretiusculum*), Prof. C. Leuckert (*Lepraria caesioalba* and *L. rigidula*),

Dr H. Mayrhofer (*Rinodina gennarii*) and Dr L. Tibell (*Calicium glaucellum*), Mr Leo Spier for communicating his collections of the excursion, the curators of B, LG and LUX for the loan of specimens in their care, and Dr H. Sipman for reading and commenting on the manuscript.

References

Boom, P. P. G. van den, 1992. - The saxicolous species of the lichen genus Lecania in the Netherlands, Belgium and Luxembourg. - Nova Hedwigia 54: 229-254.

Brand, A. M., A. Aptroot, A. J. de Bakker & H. F. van Dobben, 1988. - Standaardlijst van de Nederlandse korstmossen. - Wetenschappelijke mededeling KNNV 188: 67 p.

Bricaud, O., C. Coste, T. Ménard & C. Roux, 1991. - Champignons lichénisés et lichénicoles de la France méridionale (Corse comprise): espèces nouvelles et intéressantes (V). - Bull. Soc. Linn. Provence 42: 141-152.

De Priest, P., 1993. - Variation in the Cladonia chlorophaea Complex I: Morphological and Chemical Variation in Southern Appalachian Populations. - Bryologist 96: 555-563.

Diederich, P., 1986. - Lichenicolous fungi from the Grand Duchy of Luxembourg and Surrounding areas. - Lejeunia, N.S. 119: 1-26.

Diederich, P., 1989. - Les Lichens épiphytiques et leurs champignons lichénicoles (macrolichens exceptés) du Luxembourg. - Trav. sci. Musée nat. hist. nat. Luxemb. 14: 1-268.

Diederich, P., 1990. - Atlas des lichens épiphytiques et de leurs champignons lichénicoles (macrolichens exceptés) du Luxembourg. - Trav. sci. Musée nat. hist. nat. Luxemb. 16: 1-72.

Diederich, P., E. Sérusiaux, A. Aptroot & F Rose, 1988. - Lichens et champignons lichénicoles nouveaux ou intéressants pour la flore de la Belgique et des régions voisines. IV. - Dumortiera 42: 17 -35.

Diederich, P., E. Sérusiaux, J. Lambinon & P. van den Boom, 1992. - Lichens et champignons lichénicoles nouveaux ou intéressants pour la flore de la Belgique et des régions voisines. VI. - Belg. Journ. Bot. 125: 137-150.

Feltgen, E., 1902. - Mersch sowie nächste und weitere Umgebung. - Worré-Mertens, Luxembourg, 260 p.

Koltz, J. P. J., 1897. - Prodrome de la flore du Grand-Duché de Luxembourg. Lichenés. - Rec. Mém. Trav. Soc. Bot. G.-D. Lux. 13: 91-349.

Kümmerling, H., C. Leuckert & V. Wirth, 1991. - Chemische Flechtenanalysen VI. Lepraria incana (L.) Ach. - Nova Hedwigia 53: 507-517.

Kümmerling, H. & C. Leuckert, 1993. - Chemische Flechtenanalysen 8. Lepraria lesdainii (Hue) R. C. Harris. - Nova Hedwigia 56: 483-490.

Laundon, J., 1992. - Lepraria in the British Isles. - Lichenologist 24: 315-350.

Makarevitch, M. F., 1971. - Lekanury z"hrupy subfusca" v URSR [Lecanora's of the "subfusca group" in the Ukrainian SSR]. - Ukrains'kyi Botanichnyi Zhurnal 28: 161-166 [in Ukrainian].

Matzer, M., 1993. - Beitrag zur Kenntnis der Ascomycetengattungen Globosphaeria, Roselliniopsis und Synaptospora. - Cryptogamie, Mycol. 14: 11-19.

Santesson, R., 1993. - The lichens and lichenicolous fungi of Sweden and Norway. - SBT, Lund, 240 p.

Sérusiaux, E., 1990. - Liste préliminaire des lichens et champignons lichénicoles des rochers et éboulis des affleurements du Salmien (Belgique, région de Vielsalm). - Mém. Soc. Roy. Bot. Belg. 12: 135-147.

Sérusiaux, E, P. Diederich & F. Rose, 1985. - Lichens et champignons lichénicoles nouveaux ou intéressants pour la flore de la Belgique et des régions voisines. III. - Dumortiera 33: 25-35.

Tønsberg, T., 1992. - The sorediate and isidiate, corticolous, crustose lichens in Norway. - Sommerfeltia 14: 331 p.

Wagner-Schaber, E., 1987. - Répartition et écologie des macrolichens épiphytiques dans le Grand-Duché de Luxembourg. - Trav. sci. Musée hist. nat. Luxemb. 8: 1-169.