

# New or interesting lichens and lichenicolous fungi from Belgium, Luxembourg and northern France. XII.

Paul Diederich<sup>1</sup>, Damien Ertz<sup>2</sup>, Dries Van den Broeck<sup>3</sup>, Pieter van den Boom<sup>4</sup>, Maarten Brand<sup>5</sup> & Emmanuël Sérusiaux<sup>6</sup>

<sup>1</sup> Musée national d'histoire naturelle, 25 rue Munster, L-2160 Luxembourg (paul.diederich@education.lu)

<sup>2</sup> Jardin Botanique National de Belgique, Domaine de Bouchout, B-1860 Meise, Belgique (damien.ertz@br.fgov.be)

<sup>3</sup> Floridastraat 43 bus 1, B-2830 Willebroek (dries.vandenbroeck@telenet.be)

<sup>4</sup> Arafura 16, NL-5691 JA Son, the Netherlands (pvdboom@zonnet.nl)

<sup>5</sup> Klipperwerf 5, NL-2317 DX Leiden, the Netherlands (a.maartenbrand@gmail.com)

<sup>6</sup> Plant Taxonomy and Conservation Biology Unit, University of Liège, Sart Tilman B22, B-4000 Liège, Belgium (E.Serusiaux@ulg.ac.be)

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**Abstract.** Studies on large and mainly recent collections of lichens and lichenicolous fungi led to the addition of 19 taxa to the flora of Belgium, Luxembourg and northern France: *Buelliella poetschii*, *Caloplaca arcis*, *C. coralliza*, *C. dichroa*, *C. oasis*, *C. pyracea*, *Gyalecta derivata*, *Lemmopsis pelodes*, *Lepraria ecorticata*, *Leptogium aragonii*, *L. pulvinatum*, *Leptorhaphis laricis*, *Minutoexcipula tephromelae*, *Monodictys epilepraria*, *Phoma grumantiana*, *Polyblastia gothica*, *Ramalina canariensis*, *Sphaerellothecium cladoniae* and *Vouauxiella verrucosa*. Another 22 additional taxa are reported in recent publications: *Acarospora rufescens*, *Arrhenia peltigerina*, *Bacidia caesiovirens*, *B. subfuscula*, *B. sulphurella*, *Caloplaca itiana*, *C. ulcerosa*, *Carbonea supersparsa*, *Chaenothecopsis ochroleuca*, *Endohyalina insularis*, *Lecanora helicopsis*, *L. sarcopidoides*, *L. subsaligna*, *Lepraria zeorinica*, *Lichenochora paucispora*, *Parmotrema pseudoreticulatum*, *Physcia tribacioides*, *Sphaerellothecium araneosum*, *S. parmeliae*, *Strigula sychonogonoides*, *Verrucaria polysticta* and *V. xyloxena*. The following species have to be deleted from the checklist: *Acarospora smaragdula*, *Caloplaca britannica*, *C. lithophila*, *Lecanora albellula* (syn. *L. piniperda*), *Lepraria leuckertiana*, *Lichenochora inconspicua* and *Parmotrema stuppeum*. *Abrothallus acetabuli*, *Lepraria jackii*, *Phaeosporobolus usneae*, *Telogalla olivieri* and *Usnea flammea* are newly reported for Belgium, and *Chaenotheca brachypoda*, *C. hispidula*, *Fellhanera viridisorediata*, *Lepraria sylvicola*, *Leptorhaphis epidermidis*, *Lichenocodium pyxidatae*, *Tubeufia heterodermae* and *Verrucaria hegetschweileri* for Luxembourg.

## 1. Introduction

This paper continues the series of notes on the flora of lichens and lichenicolous fungi in Belgium, Luxembourg and northern France. Although the former contribution was issued only a year ago (Ertz et al. 2008) a relatively large number of additions and changes to the checklist of species present in that area (Diederich & Sérusiaux 2000) can be done. This paper further includes the most recent updates regarding the nomenclature and taxonomy of the species present. In the enumeration of specimens, the abbreviation 'h' refers to the private herbarium of the collector.

## 2. Survey of other publications on the lichen flora and vegetation of the study area

Kuborn & Diederich (2008) presented an inventory of the lichen flora of siliceous outcrops in the 'Naturpark Obersauer' in Luxembourg (Ard.). They reported 197 species, amongst which the lichenicolous fungi *Carbonea supersparsa* (Nyl.) Hertel, *Chaenothecopsis ochroleuca* (Koerb.) Tibell & K. Ryman, *Sphaerellothecium araneosum* (Arnold) Zopf and *S. parmeliae* Diederich & Etayo are new for the checklist area (Diederich & Sérusiaux 2000). Nine further species are new for Luxembourg.

Garnier-Delcourt (2008) reported the discovery of the lichenicolous mushroom *Arrhenia peltigerina* (Peck) Redhead et al. in the south of Luxembourg on thalli of *Peltigera rufescens*.

Kukwa & Flakus (2009) reported *Lepraria zeorinica* (L. Saag) Kukwa as new to our checklist area, based on material recently collected in France (Ard.).

Roux et al. (2009) described the new *Caloplaca itiana* Cl. Roux, M. Boulanger & Malle from coastal rocks in northern France (Pas-de-Calais, Boulonnais) within our study area. We have collected two further specimens of the same species: France, Mar.: Cap Gris Nez, à partir de la plage au N de Framzelle vers l'W, sur une distance de 300 m (E22.15), alt. 5 m, sur des rochers en grès en bord de mer, 2000, *P. Diederich* 14387 (h) & *J. Signoret*; *ibid.*, à 400 m à l'W de la plage au N de Framzelle, rochers à mi-pente, (E22.15), alt. 25 m, blocs de grès dans végétation herbacée, 2000, *P. Diederich* 14455 & *J. Signoret*.

Giralt et al. (in press) report *Endohyalina insularis* (Arnold) Giralt, van den Boom & Elix [= *Rinodina insularis* (Arnold) Hafellner] from northern France (Ardenne, Chooz, lichenicolous on *Lecanora rupicola*). The species is new for our checklist area.

Rouxhet et al. (2008) described the vegetation and flora of disused slate quarries near Vielsalm (B Ard.) with a focus on the bryophytes and lichens. Indeed these sites host some of the rarest species in our area of study such as *Cryptogramma crispa* (fern), *Buxbaumia aphylla* (bryophyte) and the lichens *Arctoparmelia incurva*, *Lecanora silvae-nigrae* and *Melanelia soreidiata*. They confirmed that *Brodoa atrofusca* and *Stereocaulon saxatile* have not been observed recently near Vielsalm and should therefore be considered extinct in our study area. Species associated with metal-rich rocks are also observed in several disused quarries with *Acarospora sinopica*, *Rhizocarpon oederi*, *Lecanora epanora*, *L. subaurea*, *L. handelii* and *Placopsis lambii*.

Van den Broeck et al. (2008b) reported the discovery of *Caloplaca ulcerosa* Coppins & P. James, *Parmotrema pseudoreticulatum* (Tav.) Hale, *Physcia tribacioides* Nyl. and *Verrucaria xyloxena* Norman, which are new for the

checklist of Belgium, Luxembourg and northern France. *Buellia schaeereri* De Not., *Didymelopsis pulposi* (Zopf) Grube & Hafellner and *Hawksworthiana peltigericola* (D. Hawksw.) U. Braun are new records for Belgium, whilst the presence in Belgium of *Bacidia subfuscula* (Nyl.) Th. Fr. is confirmed. Eighteen additional species are new for Flanders.

Van den Broeck et al. (2008c) organized a three days international excursion in the Forêt de Soignes (Zoniënwood) near Brussels. In total, 186 species were recorded, including several species characteristic for old forests, such as *Pyrenula nitida* and *Thelotrema lepadinum*.

De Beer & Van den Broeck (2008), Van den Broeck (2008), Van den Broeck & Hantson (2008) and Van den Broeck et al. (2008a) listed the lichens observed or collected during excursions in Flanders, organized by the Vlaamse Werkgroep Bryologie en Lichenologie. In one of these papers (Van den Broeck 2008), the lichenicolous *Arthonia apotheciorum* (A. Massal.) Almq. is reported from *Lecanora albescens*. Until now, the entire *Arthonia* material from our study area growing on *L. albescens* was included in the species concept of *Arthonia lecanorina* Almq. (Diederich et al. 2009), a species described from *L. dispersa*. As long as there is no evidence that the material on these hosts belongs to two distinct species, we prefer to keep all that material under the name *A. lecanorina*.

Van den Broeck et al. (2009) did a four days excursion to the Boulonnais in northern France. They report 55 species new for the Boulonnais, including four new for our checklist area: *Bacidia caesiovirens* S. Ekman & Holien (previously known only from Scotland, Ireland and Norway; photograph of fertile material shown in fig. 2), *Lecanora helicopis* (Wahlenb.) Ach., *Strigula sychnogonoides* (Nitschke) R. C. Harris (sub *Geisleria* s., illustrated in fig. 5) and *Verrucaria polyspecta* Borrer [this species has also recently been collected in Belgium: Mar.: Au NW de Veurne, vers Sint-Idesbald, Ten Bogaarde Hoeve, vieux murs autour de la ferme près du parking (C0.57), 2002, *P. Diederich* 15230 (h). Fl.: Hundelgem (Zwalm), kerk (E3.13), on calcareous wall, 2008, *D. Van den Broeck* 2746 (h)]. Three further species that would be

new for our checklist are provisionally not accepted: *Lecania aipospila* (Wahlenb.) Th. Fr. (specimen A. Aptroot 68728 represents sterile *L. cf. fructigena*), *Phaeopyxis punctum* (A. Massal.) Rambold, Triebel & Coppins (specimen A. Aptroot 68738 is *Cladonia rangiformis* without visible lichenicolous fungus), and *Xanthoria aureola* (Ach.) Erichsen (specimen A. Aptroot 68741 contains a pebble with a yellow and an orange thallus of *X. parietina*; although these might be genetically distinct, the orange thallus does not have the typical morphology of *X. aureola*).

Hellemans (2008) reported 72 lichen species from a nature reserve in Belgium (Camp.).

Aptroot & Stapper (2008) presented a report on two excursions in 2006 and 2007 in the Northern Eifel in Germany and the adjacent Ardennes in Belgium. A total of 422 species were recorded.

Three lichen species were recorded by Killmann & Fischer (2008) in Luxembourg close to the German border.

### 3. Taxonomical and nomenclatural changes

Wedin et al. (2009) demonstrated that the name *Acarospora smaragdula* (Wahlenb.) A. Massal. must be used exclusively for specimens with a K+ red thallus (norstictic ac.). Aptroot et al. (2008a) suggest that the Dutch material called *A. smaragdula*, but with a K- thallus, is better referred to as *Acarospora rufescens* (Ach.) Bausch. This species was reported from Belgium by Purvis et al. (1992: 61-62), but without reference to any specimens, and therefore the species was not accepted in our Checklist (Diederich & Sérusiaux 2000). We accept Aptroot's decision, and we propose to name all '*smaragdula*' specimens from our checklist area *A. rufescens*. Following Aptroot et al. (2008a), the genuine, K+ red reacting *A. smaragdula* occurs in the Netherlands only on sea-dikes; it should be looked for in similar habitats in Belgium. *Acarospora fusca* B. de Lesd., a species described from our study area (northern France, Dunkerque), was included in *A. smaragdula* by Diederich & Sérusiaux (2000). As the thallus of the type specimen is K- (Bouly

de Lesdain 1914: 100), we provisionally include it in *A. rufescens* as well.

Van den Boom & Brand (2008a) masterly revised the *Lecanora saligna*-group in western and central Europe. *L. saligna* (Schrad.) Zahlbr. is confirmed as being a common species in Belgium and Luxembourg. *L. albellula* Nyl. (syn. *L. piniperda* Körb.) does not occur in Belgium and Luxembourg and must be removed from the checklist (Diederich & Sérusiaux 2000). The new *L. subsaligna* M. Brand & van den Boom (type locality in Belgium!) is not rare in Belgium and Luxembourg. *L. sarcopidoides* (A. Massal.) A. L. Sm. is recorded from three Belgian localities and is new for the checklist area.

Gueidan et al. (2009) proposed a new generic classification of the Verrucariaceae, based on molecular and morphological evidence. The following changes concern the checklist of Belgium, Luxembourg and northern France: the type species of *Verrucaria*, *V. rupestris* Schrad., is considered as a distinct species and not a synonym of *V. muralis* Ach; *Verrucaria maura* and *V. rheitrophila* are combined in the new genus *Hydropunctaria* (see Table 1); and *Verrucaria cyanea* and *V. dufourii* are combined in the new genus *Parabagiettoa* (see Table 1).

Breuss (2009) revised the genus *Placopyrenium*, and accepted four taxa occurring in our checklist area, viz. *P. canellum* (Nyl.) Gueidan & Cl. Roux (syn. *Verrucaria canella* Nyl.), *P. fuscillum* (Turner) Gueidan & Cl. Roux (syn. *V. fuscella* (Turner) Winch & Thornhill), *P. trachyticum* (Hazsl.) Breuss var. *trachyticum* and *P. t.* var. *subtrachyticum* (B. de Lesd.) Breuss, the latter having been described from our study area (northern France, Dunkerque).

Following Coppins & Aptroot (2008), the sorediate, blastidiate or isidiate, often sterile morphs of *Verrucaria macrostoma* DC. may be called f. *furfuracea* B. de Lesd., and those of *V. nigrescens* Pers. f. *tectorum* (A. Massal.) Coppins & Aptroot.

Thüs & Schultz (2008) considered *Verrucaria lignicola* (B. de Lesd.) Zschacke, a species described from *Alnus* roots in a river in the Belgian Ardenne, as a synonym of *V. sublobulata* Servít, but they did not discuss the reason of their decision nor state if they saw authentic material of *V. lignicola*.

Table 1. Changes of generic position adopted in the checklist (Diederich & Sérusiaux 2000) and subsequent papers following new taxonomical studies.

Former generic position	New generic position	References
<i>Arthonia varia</i> (Tul.) Jatta	<i>Phacothecium varium</i> (Tul.) Trevis.	Hafellner (2009)
<i>Kalaallia reactiva</i> Alstrup & D. Hawksw.	<i>Opegrapha reactiva</i> (Alstrup & D. Hawksw.) Etayo & Diederich	Etayo (2008: 159)
<i>Lecania hyalina</i> (Fr.) R. Sant.	<i>Biatora globulosa</i> (Flörke) Fr.	Smith et al. (2009: 975)
<i>Opegrapha atra</i> Pers.	<i>Arthonia atra</i> (Pers.) A. Schneid.	Ertz et al. (2009)
<i>Opegrapha calcarea</i> Sm.	<i>Arthonia calcarea</i> (Sm.) Ertz & Diederich	Ertz et al. (2009)
<i>Pronectria leptaleae</i> (J. Steiner) Lowen	<i>Xenonectriella leptaleae</i> (J. Steiner) & Lowen	Rossmann Etayo (2008: 270-279)
<i>Pronectria ornamentata</i> (D. Hawksw.) Lowen	<i>Xenonectriella ornamentata</i> (D. Hawksw.) Rossmann	Etayo (2008: 270-279)
<i>Pyrenocollema chlorococcum</i> Aptroot & van den Boom	<i>Collemopsisidium chlorococcum</i> (Aptroot & van den Boom) Coppins & Aptroot	Coppins & Aptroot (2008)
<i>Verrucaria cyanea</i> A. Massal.	<i>Parabagliettoa cyanea</i> (A. Massal.) Cl. Roux	Gueidan & Gueidan et al. (2009)
<i>Verrucaria dufourii</i> DC.	<i>Parabagliettoa dufourii</i> (DC.) Roux	Gueidan & Cl. Gueidan et al. (2009)
<i>Verrucaria maura</i> Wahlenb.	<i>Hydropunctaria maura</i> (Wahlenb.) Keller, Gueidan & Thüs	Gueidan et al. (2009)
<i>Verrucaria rheitrophila</i> Zschacke	<i>Hydropunctaria rheitrophila</i> (Zschacke) Keller, Gueidan & Thüs	Gueidan et al. (2009)

Following the new edition of the British lichen flora (Smith et al. 2009), the correct name for *Verrucaria hydrela* auct., non Ach. is *V. denudata* Zschacke, and the correct name for *Diplotomma hedinianum* (H. Magn.) P. Clerc & Cl. Roux should be *D. hedinii* (H. Magn.) P. Clerc & Cl. Roux.

Laundon (2003) recognized esorediate specimens of *Lecanora conizaeoides* as the forma *variola* (Arnold) J. R. Laundon.

Etayo & Navarro-Rosinés (2008) described the new lichenicolous *Lichenochora paucispora* Etayo & Nav.-Ros. from Great Britain and Luxembourg on *Bilimbia sabuletorum*. The Luxembourg specimen had been published as *L. inconspicua* Hafellner by Sérusiaux et al. (1999), a species obviously confined to *Mycobilimbia berengeriana*, and that species has therefore to be deleted from the checklist of Belgium, Luxembourg and northern France.

Roux (2009) showed that the species formerly called *Naetrocymbe saxicola* (A. Massal.) R. C. Harris in our area of study does not represent that species, but a non-lichenized, unidentified species of *Arthopyrenia*.

Kaschik (2006) demonstrated that the saxicolous *Rinodina gennarii* Bagl. and the corticolous *R. oleae* Bagl. are synonyms, and that

the oldest name *R. oleae* must be used for this species.

The epithet *pseudoreticulatum* (Tav.) Hale has to be used for the Belgian material previously called *Parmotrema stuppeum* (Taylor) Hale (Aptroot et al. 2008b, Van den Broeck et al. 2008b). Recent molecular studies have confirmed that this species is distinct from *P. reticulatum* (Taylor) Choisy (Divakar et al. 2005).

#### 4. New or interesting reports

##### **Abrothallus acetabuli** Diederich

Belgium, Mosan: Falmignoul (J5.17), on *Fraxinus* along road, on *Pleurosticta acetabulum*, 2009, D. Van den Broeck 3274 (h); Doisches, le long de la route Philippeville-Givet juste au N de Doisches, au niveau de la "Haie Gabaux" (J5.24), tronc de *Fraxinus* en bord de route à proximité d'un bois, sur *P. acetabulum*, 2008, D. Ertz 12299 (BR).

A lichenicolous ascomycete new for Belgium.

##### **Abrothallus parmeliarum** (Hoffm.) Ach.

Belgium, Ard.: Louette-St-Pierre (K5.27), on *Parmelia saxatilis*, 1870, F. Gravet (BR).

This lichenicolous ascomycete was known from a single record in Belgium (Ard.), where

it was collected in 1891 on *Parmelia saxatilis*. This second specimen confirms its presence in the Belgian Ardennes during the 19<sup>th</sup> century.

### **Bacidia arnoldiana** Korb. s.str.

Belgium, Mosan: Viroinval/Treignes, vallée du Ruisseau des Fonds de Ri, lieu-dit 'Roche-aux-Chevaux' (J5.33), 1999, sur une paroi calcaire verticale ombragée, *P. Diederich* 14214; au N du village de Sosoye, Montagne de Sosoye, réserve naturelle sur le versant gauche de la Molignée (H5.35), 2002, affleurement rocheux calcaire, D. Ertz 723 (LG); 0.5 km E of Marche-en-Famenne (H6.47), 1990, vertical shaded brick, *P. van den Boom* 9515 (h, LG); Durbuy, left side of the river Ourthe, W of the railway bridge over river Ourthe (G7.52), 1998, natural calcareous outcrop, *E. Sérusiaux* (LG); Wavreille, right side of the Ri des Boyes near Chenet, N of 'Trous des Lutons' (J6.35), 1997, sheltered limestone outcrop, *E. Sérusiaux* (LG); 1 km SE of Hotton (H7.31), 1990, shaded rockface, *P. van den Boom* 9533 (h, LG).

Luxembourg, Lorr.: E Rollingen, Dréiburen (L8.35), 1983, sur une paroi verticale suintante en béton près d'une source, *P. Diederich* 5820 (h); *ibid.*, 1987, sur une paroi ombragée en grès, *P. Diederich* 7841 (h); au SW de Grevenmacher, Kelsbaach (L9.53), 1996, sur un rocher en calcaire coquillier, *P. Diederich* 12403 (h).

Brand et al. (2009) demonstrated that two species can be recognized within *Bacidi(n)a arnoldiana*: the saxicolous *Bacidia arnoldiana* s.str., and the corticolous *B. sulphurella* Samp. The former species is reported by these authors from Belgium and the latter from Belgium and Luxembourg. As almost all previously known data from our checklist area are corticolous and thus belong to *B. sulphurella*, we give here a complete list of the much rarer *B. arnoldiana*.

### **Buellia violaceofusca** Thor & Muhr

Belgium, Ard.: Wellin, 4 km S of Chanly, ruisseau le Glan (J6.54), on *Fraxinus*, 2007, D. Ertz 10169 (BR). This rare species was previously known from one locality in the Belgian Ardennes (Sérusiaux et al. 1999).

### **Buellia poetschii** Hafellner

Belgium, Mosan: SW of Wavreilles, 1 km ENE of Belvaux, E side of Lesse (J6.34), SW exposed steep limestone slope with Xerobromion communities, on *Endocarpon*, 2001, *P. & B. van den Boom* (h); Dinant, BNVR nature reserve of 'Devant-Bouvignes' (H5.37), SW exposed sloping calcareous

rocks and Xerobrometum, on *E. pusillum*, 1999, *P. van den Boom* 22689 (h); Comblain-au-Pont, Chession (G7.23), à la base d'une paroi de calcaire compact, éclairée et au bord d'une route à forte circulation, on *Endocarpon*, 2001, D. Ertz (BR).

Netherlands: Z Limburg, Bemelen (E7.26), E exposed soft calcareous rock, on *E. pusillum*, 1989, *P. van den Boom* 9151a (h).

This recently described lichenicolous ascomycete (Hafellner et al. 2008) was known from Austria, Switzerland and the U.S.A., always on the thalli of *Endocarpon* species. It is new for our checklist area, and also for the Netherlands.

### **Caloplaca arcis** (Poelt & Vězda) Arup

Belgium, Fl.: ENE of Brugge, Moerkerke centre, brick wall along churchyard (C2.14), 2000, *P. van den Boom* 24277, 24279 (h). Camp.: Kerkhofmuur Meerle (A5.55), betonnen afdekplaat, 2003, D. Van den Broeck (h, herb. Diederich). Brab.: Bellingen (Pepingen), protestant church (E4.52), on wall around churchyard, 2003, A. Aptroot 59238 (h, herb. Diederich); Gooik, protestant church (E4.41), on wall of church, 2003, A. Aptroot 59229 (h, herb. Diederich).

The Netherlands: Friesland: Gaasterland, dike, SW of Roode Klif, on basalt, 1989, *P. van den Boom* 9223 (h). Utrecht: Spakenburg, former 'Zuiderzee dijk', on basalt, 1983, *P. van den Boom* 581 (h). Noord-Brabant: Boxtel, 'St. Petrus' church, on N exposed brick wall, 1989, *P. van den Boom* 7313 (h).

Arup (2006) reported this species from a few localities in Austria, Great Britain and Sweden. However, in the Netherlands *C. arcis* is a common species, and in western Belgium it seems to be rather common too (selection of specimens cited above). We have seen several specimens from Belgium and the Netherlands identified as *Caloplaca britannica* R. Sant., but that species has a different ecology and is known only from seashore rocks in Western Europe. *Caloplaca arcis* is new for the checklist of Belgium, Luxembourg and northern France, whilst *C. britannica* has to be removed from that checklist.

### **Caloplaca coralliza** Arup & Åkelius

Belgium, Mosan: Boussu-lez-Walcourt, route de Beaumont (H4.55), on *Ulmus*, 1964, J. Lambinon 64/1547 (LG); SE of Havelange, S of Maffe, Somal, near Somme (H6.27), on *Salix*, 1995, *P. van den Boom* 16653 (h); SE of Rochefort, near entrance of caves (J6.15), on *Tilia*, 2001, *P. van den Boom*

26433 (h); Rochefort, SE side of village (J6.25), on *Tilia*, 2001, *P. van den Boom* 26409 (h). Ard.: St-Hubert, bord de la route de Champlon près de la colonie pénit. agricole (J6.58), on *Fraxinus*, 1964, *J. Lambinon* 64/658 (LG); Sugny, route de Gedinne, à la lisière S du bois de Mohimon (L5.17), on *Acer pseudoplatanus*, 1965, *J. Lambinon* 65/834 (LG); Villance, Bonipré, route de Libin-Wellin (K6.15), on *Fraxinus* and *Juglans*, 1965, *J. Lambinon* 65/935, 936 (LG); Nassogne, au S de la commune, aux confins de Tenneville, bois St-Michel (J6.38), on *Quercus*, 1969, *E. Jacques* 6810 (BR) & *J. Lambinon* 69/94 (LG); vallée de la Masblette, entre le ruisseau du Pied de Boeuf et le Pont Mauricy (J6.47), sur *Quercus*, 1983, *E. Sérusiaux* 4952 (LG); Nassogne, haut de la vallée de la Diglette (J6.37), sur *Quercus*, 1984, *E. Sérusiaux* 6189, 6191, 6193 (LG); SW of Herbeumont, ruins of castle (L6.25), on *Quercus*, 1996, *P. van den Boom* 17660 (h); *ibid.*, 2008, *D. Van den Broeck* 185 (h). Lorr.: St-Vincent, route de Jamoigne vers la Soye, à hauteur du ruisseau de la Blanche Fontaine (L7.51), on *Carpinus*, 1983, *E. Sérusiaux* 4886 (LG); Etalle, au SE de Buzenol, vallée de la Rouge-Eau, en aval du passage de la route Etalle-St-Léger (M7.14), on *Quercus*, 1984, *E. Sérusiaux* 6458 (LG).

Luxembourg Ard.: S of Hoscheid, Banzenhuscht, road to Goebelsmühle (K8.24), on *Fraxinus*, 1995, *P. van den Boom* 16804 (h). Lorr.: Berdorf, Zickzackschleiff (K9.51), on *Quercus*, 1984, *P. Diederich* 5502 (h) & *E. Sérusiaux* 6442 (LG); N of Fischbach (L8.36), on *Quercus*, 1984, *P. Diederich* 5867 (h); Larochette, vallon du Manzebaach (L8.27), on *Quercus*, 1985, *P. Diederich* 6087 (h); E of Schieren, Kieselbaach (K8.55), on *Quercus*, 1986, *P. Diederich* 7506 (h); SW of Nommern, Nommerlayen (L8.26), on *Quercus*, 1986, *P. Diederich* 7552 (h); SSW of Echternach, S of Michelshaff, Maenhoelzchen (L9.22), on *Quercus*, 1987, *P. Diederich* 8446 (h); Graulinster, au bord de l'ancienne route vers Junglinster (L8.38), on *Sorbus domestica*, 1995, *P. Diederich* 12280 (h). Larochette, près de la ferme Weydert (L8.27), on *S. domestica*, 1998, *P. Diederich* 13488 (h).

France (Ard.): Ardennes, S of Givet, Hargnies, centre, big square with mature *Tilia* trees (J5.55), on *Tilia*, 2000, *P. van den Boom* 24419 (h).

Germany (Lorr.): Rheinland-Pfalz, N of Bollandorf (K9.41), on *Quercus*, 1984, *P. Diederich* 5679 (h) & *E. Sérusiaux* 6603 (LG).

In their revision of the *Caloplaca herbidella* group, Arup & Åkeli (2009) demonstrated that *C. herbidella* s. lat. consists of two distinct species: the mainly sterile species with an orange thallus is described as the new *C. coralliza* [= *C. herbidella* f. *rufa* (B. de Lesd.) H. Magn.], whilst *C. herbidella* s. str. has a grey-

ish thallus and is usually fertile with many apothecia. A revision of the material from our study area showed that almost all specimens belong to *C. coralliza*, but yielded one specimen definitely belonging to *C. herbidella* (see below). *C. coralliza* is new for our study area.

### **Caloplaca coronata** (Körb.) J. Steiner

Belgium, Mosan: Dinant, Moniat (rochers de la rive gauche) (H5.47), paroi calcaire ensoleillée, 1980, *E. Sérusiaux* 2091 (LG); Sosoye, Rochers de Sosoye (H5.35), tête rocheuse plus ou moins isolée, 1962, *J. Lambinon* 62/927bis (LG); 15 km S of Philippeville, SE of Nismes, Fondry des Chiens (J5.41), S exposed sloping limestone outcrops, 1991, *P. van den Boom* 11026 (h).

France, Mar.: Pas-de-Calais, Cap Gris-Nez, à 400 m à l'W de la plage au N de Framzelle, rochers à mi-pente (E22.15), blocs de grès dans végétation herbacée, 2000, *P. Diederich* 14448 (h) & *J. Signoret*.

Most Benelux specimens named *Caloplaca coronata* were wrongly identified and proved to belong to the recently described *C. dichroa*. The genuine *C. coronata* has a more southern distribution and is most probably a common species in the Mediterranean area. Our Belgian and French records (see above) are likely to be at the northern limit of the distribution zone of the species.

### **Caloplaca dichroa** Arup

Belgium, Mar.: Nieuport, muret d'un petit pont sur un fossé au bord de la route de Furnes (C1.41), 1967, *J. Lambinon* 67/382 (LG). Fl.: W of Antwerpen, NW of St. Niklaas, St-Pauwels (C4.32), on shaded N exposed wall of church, 1998, *P. van den Boom* 19946 (h). Camp.: Turnhout, old churchyard (B5.48), on calcareous stone, 1993, *P. van den Boom* 15052 (h). Mosan: Sosoye, Rochers de Sosoye (H5.35), tête rocheuse plus ou moins isolée, 1962, *J. Lambinon* 62/927, 930 (LG); Yvoir, rocher de Champalle (H5.27), tête de rochers calcaires, 1967, *J. Lambinon* 67/374 (LG); Huccorgne, versant droit du Fond de Roua près du château de Famelette (F6.54), rochers calc. ensoleillés, 1963, *J. Lambinon* 63/1731 (LG); Dion-le-Val, falaise au N du ruisseau (J5.37), sommet de falaise, rocher de calcaires givetien ensoleillé, fréquenté par les oiseaux, 1982, *P. Malaise* & *E. Sérusiaux* 2687 (LG); Han-sur-Lesse, Belvédère (NE of village) (J6.24), on sheltered and N-exposed limestone outcrop, 1997, *P. van den Boom* 18729 (h). Ard.: St-Hubert, parking du Fourneau St-Michel, sur une vieille 'roue à aubes' (J6.47), 1997, *P. Diederich* 12664 (h).

Luxembourg, Lorr.: Hamm, rocher au-dessus du carrefour de la rue Godchaux (piste cyclable) avec la rue des Draperies (M8.26), sur une surface horizontale ensoleillée en grès, 1997, *P. Diederich* 13428 (h).

France, Mosan: Ardennes, extrémité aval des rochers de Chooz (rive droite de la Meuse) (J5.35), bloc rocheux calcaireux du Couvinien infér. sur la crête, 1970, *J. Lambinon* 70/465 (LG).

The Netherlands: Noord-Brabant: SW of Valkenswaard, SW of Bergeyk, Loo, churchyard, on concrete, 1991, *P. van den Boom* 12125 (h).

As mentioned above, the recently described *Caloplaca dichroa* has generally been mistaken for *C. coronata* in Central and Northern Europe (Arup 2006). Reexamination of our material of *C. coronata* made clear that that species is very rare in southern Belgium and that *C. dichroa* is most probably common throughout the Benelux countries, especially on concrete and calcareous rocks. *Caloplaca dichroa* is new for our study area.

#### **Caloplaca herbidella** (Hue) H. Magn.

Belgium, Ard.: St-Hubert, bord de la route de Champlon près de la colonie pénit. agricole (J6.58), tronc de *Fraxinus* en bord de route, 1964, *J. Lambinon* 64/659 (LG).

See comments under *Caloplaca coralliza*.

#### **Caloplaca oasis** (A. Massal.) Szatala

Arup (2009) showed that the type of *Caloplaca lithophila* is a poorly developed specimen belonging either to *C. vitellinula* (Nyl.) H. Olivier or to *C. holocarpa*. The correct name for the common species growing on calcareous rocks, mortar and concrete that was called *C. lithophila* in our area of study (Diederich & Sérusiaux 2000) is *C. oasis*. *Caloplaca oasis* is new for our study area, whilst *C. lithophila* has to be removed from the checklist.

#### **Caloplaca pyracea** (Ach.) Th. Fr.

Belgium: S. loc., sur écorce, 1861, ? (BR, in herb. Westendorp). Fl.: Lint, Luytersheide (C4.48), on *Populus*, 2005, *D. Van den Broeck* 1594 (h). Camp.: Westmeerbeek, Haterbeekweg (D5.26), on *Populus*, 2005, *D. Van den Broeck* 1601 (h). Mosan: Onhaye, sablière abandonnée située à 1 km au NW du centre de Onhaye (H5.46), on *Populus*, 2008, *D. Ertz* 12174 (BR); Neu Moresnet, castle Eyneburg (F8.13), on well-lit horizontal surface of calcareous wall, 1987, *P. van den Boom*

5319 (h); S of Maastricht, S of St-Pietersberg, ESE of Kanne, near Caester (E7.35), on *Sambucus*, 2009, *P. van den Boom* 41458 (h).

Luxembourg (Lorr.): Schifflange, Brill (M8.43), on *Populus*, 1986, *P. Diederich* 7143 (h); Schouweiler, vers Bascharage, à 1,2 km après la sortie du village, le long de la route principale (M8.22), on *Tilia*, 1999, *P. Diederich* 13857 (h).

The recent revision by Arup (2009) of the *Caloplaca holocarpa* group established definitely the name for this characteristic species. It generally grows on the bark of diverse trees, especially *Populus*, though one Belgian specimen is saxicolous. Although the name *C. pyracea* was often used for *Caloplaca* specimens of the *C. holocarpa* group in the past, the species under the current modern circumscription is new for the checklist of Belgium, Luxembourg and northern France.

#### **Caloplaca ulcerosa** Coppins & P. James

Luxembourg, Lorr.: N of Reckange (Mersch), Eenelter Kapelle (L8.24), on an old trunk of *Aesculus* near a chapel, 2009, *P. Diederich* 16844 (h).

A very rare species, recently reported as new for Belgium (Van den Broeck et al. 2008b) and France (Van den Broeck et al. 2009) from the Maritime and Boulogne districts. New for Luxembourg.

#### **Cetraria islandica** (L.) Ach

Belgium, Camp.: Hechtel-Eksel, In Den Brand (C6.47), terricolous, 2008, obs. *D. Van den Broeck*; Hechtel-Eksel, Vlasmeer (C6.47), terricolous, 2008, obs. *D. Van den Broeck*.

This species was widespread in the Belgian Ardennes and Campine districts, but almost all populations disappeared. Sérusiaux et al. (2004) reported just one recent locality in the Campine district (see also Ertz et al. 2008). It is therefore interesting to inform on two recently discovered populations in that district.

#### **Chaenotheca brachypoda** (Ach.) Tibell

Luxembourg, Ard.: NW of Bourscheid, Dirbach, near hotel 'Dirbach Plage', mixed forest along river Sure (K8.33), on decorticated trunk of *Alnus*, 2009, *P. & B. van den Boom* 43428 (h).

This species was known from a few Belgian localities (Diederich et al. 2009) and is here newly reported from Luxembourg.

**Chaenotheca hispidula** (Ach.) Zahlbr.

Luxembourg, Ard.: NW of Bourscheid, Dirbach, near hotel 'Dirbach Plage', mixed forest along river Sure (K8.33), on decorticated trunk of *Alnus*, 2009, P. & B. van den Boom 43427 (h).

*C. hispidula* is an inconspicuous species rarely found in Belgium (Ertz & Duvivier 2006), but possibly overlooked. It is new to Luxembourg.

**Collema dichotomum** (With.) Coppins & J. R. Laundon (Fig. 1)

Belgium, Ard.: Near Nisramont (J7.25), siliceous rocks in the river Ourthe, 2009, E. Sérusiaux s. n. (LG).

This species was considered as extinct in the area of study (Sérusiaux et al. 2004) as the latest localities of that species were explored in 2001 in vain. The most recent herbarium specimen was collected by J. Lambinon in 1967 near Nisramont, in the Ourthe valley. Quite surprisingly, healthy populations of the species were observed during this summer (August 2009) in the same localities. Obviously rather low level of the river allowed detection of the species which was probably overlooked in 2001.

*Collema dichotomum* is a rare species throughout Europe (Degelius 1954) and was included as 'endangered' in the Lichens Red List for Europe by Sérusiaux (1989), an option confirmed by Church et al. (1996) in a similar analysis for the lichens in Britain. In England as well as in Scotland, surveys to

assess the status of the species and conservation projects have been conducted with the funding of official Agencies (see <http://www.thebls.org.uk/content/survey.html>); further a species action plan has been adopted (<http://www.ukbap.org.uk/UKPlans.aspx?ID=234>). A single recent locality is mentioned by Wirth (1995) for SW Germany, and no recent locality is known in France (C. Roux, pers. comm., 1 Sept. 2009).

*Collema dichotomum* grows in freshwater rivers and is almost permanently inundated; it is very sensitive to eutrophication and any pollution or mechanical damage to the river bed. It is thus very interesting that a completely unprotected section of the Ourthe river in Belgium still hosts a nice population of that lichen. At the European scale, *C. dichotomum* is the most interesting macrolichen occurring in our area of study and deserves special monitoring and effective protection of its habitat.

**Cyrtidula quercus** (A. Massal.) Minks

Belgium, Camp.: Hoogstraten, Boskantweg (A5.54), on *Quercus*, 2008, D. Van den Broeck 2454 (h); Wuustwezel, Zuymoeren (B4.28), on *Quercus*, 2008, D. Van den Broeck 2447 (h); Geel, Raamberg (C5.38), on *Quercus*, 2008, D. Van den Broeck 2467 (h); Westerlo, Zwarte Heide (C5.57), on *Quercus*, 2008, D. Van den Broeck 2532 (h); Meerhout, Dijkstraat (C6.52), on *Quercus*, 2008, D. Van den Broeck 2366 (h). Fl: Sint-Amands, Breutheide (D4.23), on *Quercus*, 2008, D. Van den Broeck 2551 (h); Oostkamp, Westkantstraat (D2.11), on *Quercus*, 2008, D. Van den Broeck 2507 (h). Brab.:



Fig. 1. *Collema dichotomum*, an aquatic lichen recently rediscovered in the Ourthe river in Belgium (Ard.).



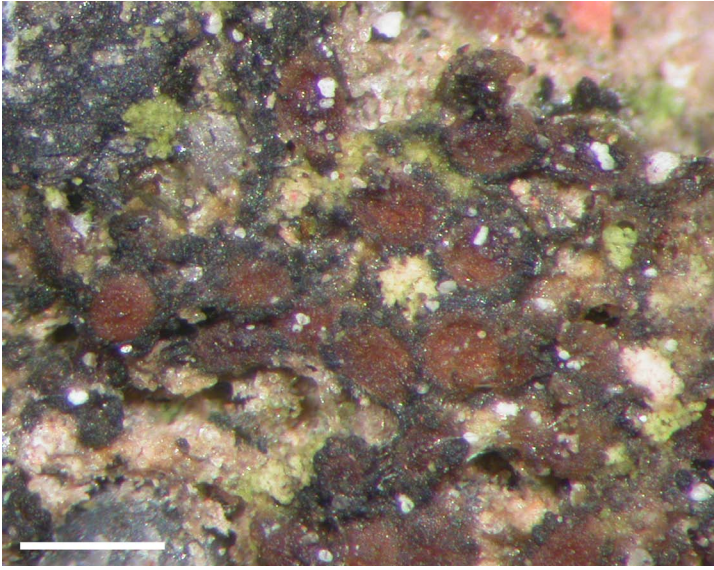


Fig. 2. *Lemmopsis pelodes*, an extremely rare or overlooked terricolous lichen, collected in Belgium (Brab.). Scale bar = 0.5 mm.

Gingelom, Wintboomstraat, Hoogstraten (E6.54), on *Quercus*, 2005, D. Van den Broeck 2083 (h).

A non-lichenized species previously known from three localities in eastern Belgium (Diederich et al. 1991). The discovery of many localities in Flanders suggests that the species must be widespread and common in our study area, but frequently overlooked. In the Netherlands, the species is common but seems to have declined in recent years due to pollution with ammonia.

**Fellhanera viridisorediata** Aptroot, M. Brand & Spier

Luxembourg, Ard.: SE of Hoscheid, W of Gralingen, along small road near military depot (K8.25), on *Picea* twigs, 2009, P. & B. van den Boom 43444 (h).

This species is very common in the southern Netherlands and has certainly been much overlooked in Belgium. Most Benelux specimens are sterile, often not clearly sorediate, and soralia are often confluent, as in the above specimen. In case of doubts of identification, roccellic acid is easily detected in an acetone extract, in which tiny curved needle-like structures are visible that are not birefringent in polarized light. New for Luxembourg.

**Gyalecta derivata** (Nyl.) H. Olivier

Belgium, Mosan: Dinant, between Falmignoul and Anseremme, Meuse valley, between Roch-

ers de Freyr and Trou de la Jeunesse (H5.57), on *Fraxinus*, 2009, D. Van den Broeck 3276 (h).

New to the checklist of Belgium, Luxembourg and northern France.

**Lemmopsis pelodes** (Stein) T. L. Ellis (Fig. 2)

Belgium, Brab.: S of Hasselt, E of St Truiden, Borgloon, churchyard (E6.47), terricolous on path, 2009, P. & B. van den Boom 43168, 43170 (h).

This extremely rare or overlooked species, previously known from Lithuania, Poland, Sweden (Jørgensen & Motiejūnaitė 2005) and the Netherlands (Aptroot et al. 2008a, van den Boom & Brand 2008b) is new for our study area.

**Lepraria ecorticata** (J. R. Laundon) Kukwa

Sérusiaux et al. (2003) published *Lecanora leuckertiana* Zedda as new for Belgium. This species has recently been transferred to *Lepraria*, as *Lepraria leuckertiana* (Zedda) L. Saag (Saag et al. 2009). However, re-examination of the Belgian material proved that it does not belong to *L. leuckertiana*, a mainly corticolous species with a thick medulla and indistinctly lobate margins, but to *Lepraria ecorticata*, a mainly saxicolous species in which a non-lobate thallus lacks a distinct medulla. *L. leuckertiana* has therefore to be deleted from our checklist, whilst *L. ecorticata* is new for it.

Nelsen et al. (2008) demonstrated that two usnic-containing *Lepraria*-species, viz. *L. coriensis* (Hue) Sipman and *L. usnica* Sipman do not group with *Lepraria* s.str. in a phylogenetic analysis. They did not include in their study other usnic-containing taxa, such as *L. ecorticata* or *L. leuckertiana*.

### ***Lepraria jackii* Tønsberg**

Belgium, Mosan: Rouillon, les Tiennes de Rouillon (H5.16), sur une petite paroi rocheuse, 2008, *D. Ertz* 12224 (BR); Gozée, abbaye d'Aulne, rive droite de la Sambre (H4.15), affleurement siliceux en sous-bois de feuillus, 2008, *D. Ertz* 12316 (BR). Ard.: SE of Eupen, Hautes Fagnes, E of Hertogewald, N side along road to Monschau, nature reserve, path from Brackvenn to Nahtsief, moor & small woodland (F8.56), on *Populus*, 2001, *P. & B. van den Boom* 27970 (h) (TLC by M. Kukwa).

This species was known from one locality in Luxembourg (van den Boom et al. 1996a) and is here reported as new for Belgium.

### ***Lepraria sylvicola* Orange**

Luxembourg, Ard.: SE of Esch-sur-Sûre, N of Heiderscheid, N of Heischtergronn, near campsite (K8.32), schistose outcrops along road, 2003, *P. & B. van den Boom* 30800 (h) (TLC by M. Kukwa).

This species was known from one locality in northern France (Kukwa & Diederich 2007) and is here reported as new for Luxembourg.

### ***Leptogium aragonii* Otálora**

Belgium, Mosan: Bauche (H5.27), 1882, *E. Marchal* (BR); environs de Namur (G5.36), rocher calcaire, 1894, *C.-H. Delogne* (BR); Montbliard (J4.23), 1874, *A. Hardy* (BR 1049); Waulsort, left bank of the Meuse, Fond de Naverogne (H5.47), 4.6.1994, sur une paroi verticale calcaire, *P. Diederich* 4977 (h); S of Namur, Yvoir, S side of village, neglected place along railway, W-exposed rock-faces (H5.27), 2001, *P. van den Boom* 26390 (h); Falmignoul (H5.57), 2002, on calcareous rock, *D. Van den Broeck* 482 (h); 2.6 km WSW of Durbuy, halfway and NE of road Petite Somme to Petit-Han (H6.18), W exposed, shaded and sunny, calcareous rock, 1989, *P. van den Boom* 8226 p.p. (h). Ard.: Bouillon, rochers du château (L6.22), 1869, *C.-H. Delogne* (BR).

Otálora et al. (2008) revised the *Leptogium lichenoides* group in Europe. Following that treatment, our previously concept of *L. lichenoides* (Sérusiaux et al. 1999) is confirmed, whilst the material called *L. gelatinosum* belongs to three distinct species, *L.*

*aragonii*, *L. gelatinosum* and *L. pulvinatum*. We revised the entire material of our study area and present here lists of specimens of each of these three species. *Leptogium aragonii* is new for the checklist of Belgium, Luxembourg and northern France, whilst *L. pulvinatum*, a frequently used name in the past, has to be added to that checklist.

### ***Leptogium gelatinosum* (With.) J. R. Laundon**

Selected specimens examined: Belgium, Mar.: Knokke-Heist, Zeedijk-Het Zoute, in dunes (B2.33), 2002, *D. Van den Broeck* 535 (h); De Panne, Westhoek, Konijnenpad, (C0.56), 1988, *M. Brand* 17922 (h); 2 km NNW of Nieuwport, Ijzermondwing (C1.41), 1988, *M. Brand* 17940 (h). Mosan: Montagne aux Buis, Roche à Lomme (J5.41), 1986 & 2003, *M. Brand* 15163 (h), *D. Van den Broeck* 409 (h); Ciergnon, bord de route Dinant-Neufchâteau (J6.12), 1967, *J. Lambinon* 67/329 (LG); Arbre, vallée du Burnot, env. de la ferme de Neffe (H5.16), 1982, *E. Sérusiaux* 4608 (LG); Dinant, colline de Froideveau, anciennes carrières des Rivages (H5.47), 1974, *J. Lambinon* 74/191 (LG); Grandhan, talus au bord de la route vers Melreux (H6.28), 1963, *J. Lambinon* 63/22 (LG); Lompret, Vallée de l'Eau Blanche, (J4.46), 1985, *E. Sérusiaux* 7075 (LG); . Ard.: Bouillon, rocher près du château (L6.22), 1868, *C.-H. Delogne* (BR 3145); Muno, Forêt de Muno, La Roche à l'Appel (L6.34), 2000, *E. Sérusiaux* (LG). Lorr.: NNW of Virton, SW of Lahage, Le Gros Cron (M7.12), 1998, *P. van den Boom* 20133 (h); Clairefontaine, gardens around convent (L8.51), 2002, *D. Ertz* 2659 (BR).

Luxembourg, Ard.: Esch-sur-Sûre (K8.32), 1979, 2000 & 2002, *P. Diederich* 1528, 14080 & 15424 (h). Lorr.: S Plankenhof (L8.36), 1979, *P. Diederich* 1457 (h); E of Mersch, Bènzert, (L8.35), 1999, *P. Diederich* 13830 (h); NW of Steinfort, (L8.51), 1980 & 1997, *P. Diederich* 2310, 2625 & 12899 (h); SW of Grevenmacher, Kelsbaach (L9.53), 1981, *P. Diederich* 3749 (h); between Dudelage and Kayl, Haardt (M8.54), 1981 & 2003, *P. Diederich* 3320 (h), *P. van den Boom* 30742 (h); W of Kayl, monument des mineurs (M8.53), 2002, *P. van den Boom* 29878 (h).

France, Mar.: Nord, Bray-Dunes, dune du Perroquet, à 900 m au N de la ferme Petite Mare (D0.15), 2002, *P. Diederich* 15196 (h); Pas-de-Calais, Ambleteuse, dunes cotières au S de l'estuaire de la Slack (E22.35), 1988, *E. Sérusiaux* 10368 (LG).

See comments under *Leptogium aragonii*.

### ***Leptogium pulvinatum* (Hoffm.) Otálora**

Selected specimens examined: Belgium (Mar.): Dunes à Knokke (B2.33), c. 1850, *Coemans* (BR 1067); Nieuport (C1.41), dunes, 1891, leg. ? (BR);

De Panne, Cabour (D0.16), dune, 2008, *D. Van den Broeck* 2412 (h). Camp.: Stabroek, De Schans van Smoutakker (B4.46), 2005, *D. Van den Broeck* 1611 (h). Mosan: 2 km N of Villers-sur-Lesse, in front of entrance to Chateau Royal (J6.13), 2001, *P. van den Boom* 26499 (h); SW of Wavreilles, 1 km ENE of Belvaux, E side of Lesse (J6.34), 2001, *P. van den Boom* 26569 (h); Dinant, Lisogne, Les Monts Broquefosse (H5.38), 2002, *D. Van den Broeck* 483 (h); Montagne aux Buis, Roche à Lomme (J5.41), 2003, *D. Van den Broeck* 409 (h); NE of Hansur-Lesse, Belvédère (J6.24), 1997, *P. Diederich* 12687 (h); Dinant, vallée de la Leffe, rive droite, face à l'ancien Moulin de Capele (H5.37), 1982, *E. Sérusiaux* 2900 (LG); Olloy-sur-Viroin, tallus rocheux couvinien au bord de la route d'Oignies (J5.42), 1962, *J. Lambinon* 62/2247 (LG). Ard.: S. loc. (probably near Malmedy) (G8.43), c. 1830, *M.-A. Libert* (BR 1056); Willerzie (K5.16), 1868, *F. Gravet* (BR 1066); Mortehan (L6.15), 1882, *C.-H. Delogne* (BR 1041). Lorr.: Torgny, carrière de Belvédère (M7.42), 1963, *G. Thiry* 624 (BR 1069), *M. Onraedt* 63/1351 (BR 5634); Waltzing, Lingenthal (L7.58), 2003, *P. van den Boom* 30693 (h); NNW of Virton, SW of Lahage, Le Gros Cron (M7.12), 1998, *P. van den Boom* 20133 (h).

Luxembourg, Ard.: Esch-sur-Sûre, ruines du château-fort (K8.32), 2000, *P. Diederich* 14080 (h). Lorr.: N Niederanven, Aarneschot (L8.58), 1985, *P. Diederich* 6800 (h); Ansembourg, garden of castle along main road (L8.44), 2005, *P. Diederich* 16191 (h); Mamer, Thillsmillen, Kielbaach, (M8.14), 1997, *P. Diederich* 12860 (h); SE of Grevenmacher, Kelsbaach (L9.53), 1981, *P. Diederich* 3749 (h); NE Rumelange (M8.53), 1985, *P. Diederich* 6200 (h); Lasauvage, rock in village (M7.48), 1999, *P. Diederich* 13879 (h).

France, Mar.: Nord, E of Ghyvelde, fossil dune, (D0.16), 2002, *P. Diederich* 15176 (h). Pic.: Somme, 6 km NW of Abbeville, Port-le-Grand, (J22.17), 2001, *P. Diederich* 15382 (h). Mosan: Ardennes, Givet, rive gauche de la Meuse, sous le fort de Charlemont (J5.25), 1999, *P. Diederich* 15665 (h); Givet, ancien fort de Condé (J5.25), 1982, *E. Sérusiaux* 4590 (LG). Lorr.: Moselle, 600 m NNW of Montenach, Koppenachberg (N9.22), 1999, *P. Diederich* 13768 (h); Meurthe-et-Moselle, Charency, entre Longuyon et Montmedy (M7.52), 1989, *E. Sérusiaux* 10392 (LG).

See comments under *Leptogium aragonii*.

### **Leptorhaphis epidermidis** (Ach.) Th. Fr.

Belgium, Ard.: Louette-Saint-Pierre (K5.27), on *Betula*, 1870, *G. Aubert* (BM, BR); Westendorp, Herb. Crypt. Belg. exs. 1329 [as *Verrucaria epidermidis* var. *albissima*] and 1330 [*V. epidermidis*]; *ibid.*, *F. Gravet* (BR, as *Verrucaria oxyspora*); s. loc. [but probably same loc. as previous speci-

men], *F. Gravet* (BR, in herb. Troch); Neufchâteau (K7.51), on *Betula*, 1871, leg. ? (BR, in herb. Hardy); Bouillon, route Dohan vers Mortehan/Cugnon, talus moussu de la route à hauteur de la Roche de la Saurpîre (L6.24), on *Betula*, 1991, *E. Sérusiaux* 11055b (LG).

Luxembourg, Lorr.: NE of Rumelange (M8.53), on *Betula*, 2009, *P. Diederich* 16880 (h).

A revision of the herbarium material of this non-lichenized species yielded several specimens from three Belgian localities. It has also recently been collected in a formerly polluted site in southern Luxembourg, suggesting that it might be overlooked. The species has furthermore been reported on *Betula* from Belgium (Ard., Montenau, H8.15, 1957 [Müller (1958: 141)] and France (Fl., Nord, Rexpoëde, D0.45 [Bouly de Lesdain 1910: 255]; Lorr., Meurthe-et-Moselle, Hussigny-Godbrange, M8.51, 2004, *A. Aptroot* [Diederich et al. 2006]). Other literature reports on phorophytes other than *Betula*, or without any indication of the phorophyte are dubious.

### **Leptorhaphis laricis** (J. Lahm) M. B. Aguirre

Belgium, Camp.: Wechelderzande, 1.5 km NW of village, NE of airstrip (B5.55), on *Calluna*, small heath sheltered by *Pinus* wood, 2007, *M. Brand* 56046 (h). Ard.: 1.8 km W of Chiny, right shore of Semois (L6.37), on *Calluna* on top of schist outcrop in wooded valley, 1989, *M. Brand* 22218 (h).

France, Ard.: Ardenne, 7 km NE of Revin, Fumay, Roche de l'Uf (K5.14), on *Calluna* twigs, small pieces of heath near top of schistose rocks, 1998, *M. Brand* 37438 (h).

This non-lichenized fungus was known from Germany on *Larix* and *Genista germanica* (Aguirre-Hudson 1991) and from the Netherlands on *Calluna* and *Quercus* (Aptroot et al. 2008a). It is here reported as new for our checklist area.

### **Leptorhaphis maggiana** (A. Massal.) Körber

Belgium, Fl.: Lede, Vallei van de Serskampse Beek (D3.46), on *Corylus*, 2008, *D. Van den Broeck* 2426 (h); Ieper, Galgenbossen (E1.12), on *Corylus*, 2009, *D. Van den Broeck* 2756 (h). Camp.: Aarschot, Meetshoven (D5.35), on *Corylus*, 2009, *D. Van den Broeck* 3015 (h).

A rare or overlooked, non-lichenized species that was known from one locality in Belgium (Mosan) on *Corylus* and one in

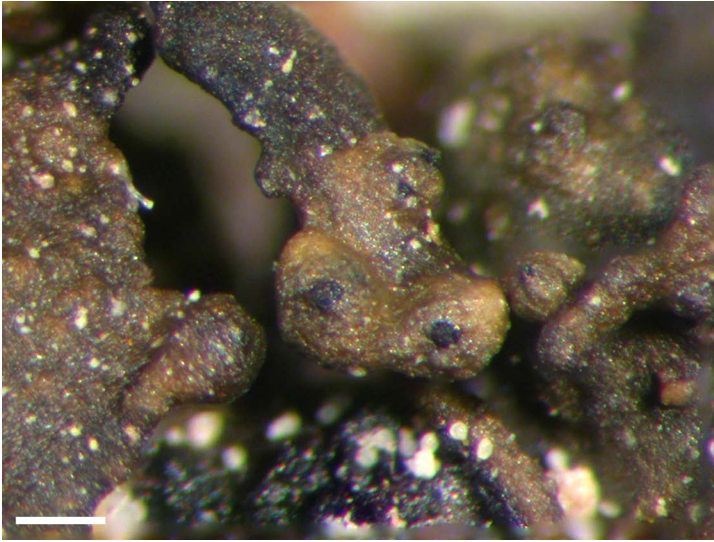


Fig. 3. *Myxophora leptogiophila*, a lichenicolous ascomycete with black, immersed perithecia in the thallus of *Collema crispum*, collected in Luxembourg (Lorr.). Scale bar = 200  $\mu$ m.

Luxembourg (Lorr.) on *Carpinus* (van den Boom et al. 1999).

**Lichenoconium pyxidatae** (Oudem.) Petr. & Syd.

Belgium, Lorr.: Lischert (L7.36), on a wall in a garden, on *Cladonia fimbriata*, 2001, P. Diederich 15130 (h) & D. Thoen.

Luxembourg, Lorr.: W of Kayl, near 'Monument des mineurs' (M8.53), over mosses in a disused quarry, on *C. pyxidata* subsp. *pocillum*, 2009, P. Diederich 16825 (h).

France, Lorr.: Moselle, Schengen, Stromberg, quarry (N9.11), on *C. cf. rei*, 1981, P. Diederich 12805 (h).

A relatively rare lichenicolous coelomycete confined to *Cladonia* species, previously known from one locality in Belgium (Sérusiaux et al. 1999) and one in northern France (Signoret & Diederich 2000), here reported as new for Luxembourg, and from additional Belgian and French localities.

**Lobaria virens** (With.) Laundon

Belgium, Mosan: vallée de l'Hermeton, rocher siliceux ombragé, 1887, A. Tonglet & L. Guelton (BR [81F]); *ibid.*, à la base d'un rocher ombragé, 1897, ? (BR, in herb. Troch).

This species was known from eight Belgian localities, all located in the Ardenne district. The two old specimens cited above prove that the species did also exist in the Meuse district at the end of the 19<sup>th</sup> century.

**Minutoexcipula tephromelae** V. Atienza, Etayo & Pérez-Ortega

Belgium, Ard.: S of St. Vith, Ouren, churchyard (J8.25), vertical surface of grave stone, on *Tephromela atra*, 2004, P. & B. van den Boom 32277 (h).

Luxembourg, Ard.: Bourscheid, castle (K8.34), on a quartzite wall, on *T. atra*, 2003, P. Diederich 15624 (h).

Netherlands: Prov. Groningen, N of Delfzijl, ENE of Bierum, Hoogwatum, NE exposed dike with granite stones among cement or concrete, on granite, on *T. atra*, 2000, P. & B. van den Boom 24586 (h).

This recently described species (Atienza et al. 2009) seems to be confined to *Tephromela atra*. It was known from Spain and is here newly reported from Belgium, Luxembourg and the Netherlands.

**Monodictys epilepraria** Kukwa & Diederich

Luxembourg, Ard.: Hoscheid, Molberlay (K8.24), on *Quercus*, on *Lepraria* (host in a poor condition), 1987, P. Diederich 16782 (h).

Although this species is widespread and common especially in Eastern Europe (Kukwa & Diederich 2005), it appears to be extremely rare in our study area, from where it is here reported as new.

**Myxophora leptogiophila** (G. Winter) Nik. Hoffm. & Hafellner (Fig. 3)

Luxembourg (Lorr.): Strassen (M8.14), sur une pierre en grès, sur *Collema crispum*, 2009, P. Diederich 16801 (h).

This species was reported by Diederich et al. (1992, as *Physalospora leptoglyphila*) from an old specimen collected by J.-B. Reinhard near Echternach before 1850. As no locality is indicated, it is not sure, however, if the specimen was collected in Luxembourg or in Germany. We here report the first specimen of this species collected with certainty in our study area.

**Parmelina quercina** (Willd.) Hale var. **quercina**

Belgium, Fl.: Oudenaarde, Berchemweg, along a road (E2.37), on *Quercus*, 2008, *D. Van den Broeck* 2675 (h).

This species was recently rediscovered in Belgium in the Maritime district (Van den Broeck 2005, Van den Broeck et al. 2006) and is here reported at the first time from the Flanders district.

**Phaeosporobolus usneae** D. Hawksw. & Hafellner

Belgium, Fl.: Oostkamp, Kortrijksestraat, on old *Quercus* along road (C2.51), on *Ramalina farinacea*, 2008, *D. Van den Broeck* 2729 (h). Lorr.: W of Arlon, NW of Chantemelle, 1 km S of Sivry (L7.54), on *Betula*, on *Usnea filipendula*, 1985, *P. van den Boom* 2331 (h); Lahage, Croix Rouge (M7.12), on *Evernia prunastri*, 1956, *E. Jacques* 2277 (BR); Arlon, domaine militaire de Lagland, flanc SW de la 'Montagne de Stockem' (L7.56), on *Pinus sylvestris*, on *Pseudevernia furfuracea*, 2003, *P. Diederich* 15811 (h).

This lichenicolous anamorphic fungus was mentioned from Belgium (Ard.) by Diederich & Sérusiaux (2000), but no such specimen has ever been published or could be located in any herbarium. The presence in Belgium of the species is herewith confirmed, based on several recently collected specimens.

**Physcia clementei** (Turner) Maas Geest.

Belgium, Mar.: Doel, Prosperdorp, Oude Sluis (D4.44), on *Populus* on dike, grazed by sheep, 2006, *M. Brand* 54555 (h). Fl.: Sint-Laureins, Caatsweg (C2.27), on *Populus*, 2008, obs. *D. Van den Broeck*; Maldegem, Torredreef (C2.35), on *Populus*, 2008, *D. Van den Broeck* 2634 (h); Maldegem, Doornstraat (C2.35), on *Quercus*, 2007, *D. Van den Broeck* 2198 (h); Sint-Gillis-Waas, Dijkstraat (C4.11), on *Populus*, 2008, *D. Van den Broeck* 2570 (h); Oudenaarde, Berchemweg (E2.37), on *Quercus*, 2008, obs. *D. Van den Broeck*. Camp.: Geel, Zeggendijk (C5.38), on *Quercus*, 2008, *D. Van den Broeck* 2470 (h); Halen, Holakenstraat (D6.53), on *Populus*, 2006, *D. Van den Broeck* L P41/2 (h); Westerlo, 'Rothoek' (D5.17), on *Salix*, 2007, *J. Poeck* s. n. (h).

The last collection of this macrolichen from our area of study dated back to 1954, but the species was recently rediscovered in the Maritime, Campine and Meuse districts (van den Boom & van den Boom 2006). The new findings show that the species is more common than previously expected in western Belgium, and that it may be spreading rapidly.

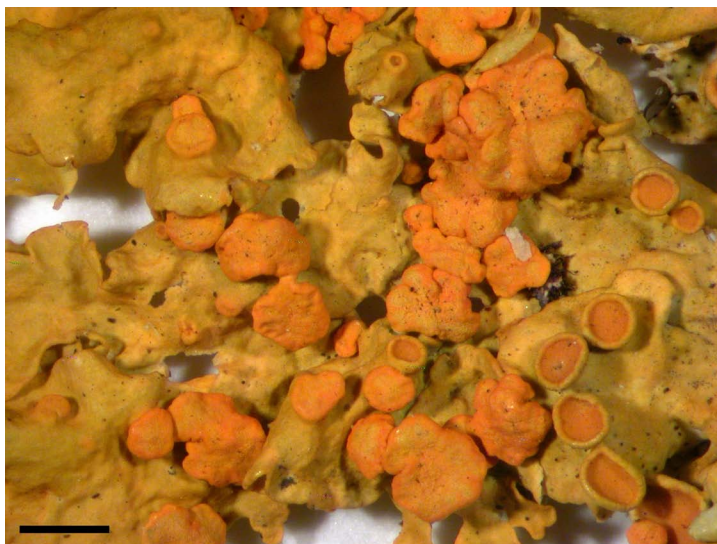


Fig. 4. *Telogalla olivieri*, a lichenicolous ascomycete with minuscule, black, entirely immersed perithecia, inducing the formation of characteristic galls on the thallus of *Xanthoria parietina*, collected in Belgium (Mosan). Scale bar = 1 mm.

### **Phoma grumantiana** Zhurb. & Diederich

Luxembourg, Lorr.: W of Kayl, monument des mineurs (M8.53), abandoned old quarry, vertical wall, on *Cladonia pyxidata* subsp. *pocillum* (infected parts of thallus bleached), 2002, P. & B. van den Boom 29864 (h).

This species was known from Svalbard and the U.S.A., on the thallus of *Cladonia matheocyatha* and *C. symphyrcarpia* (Diederich et al. 2007). It is new for our study area.

### **Polyblastia gothica** Th. Fr.

Luxembourg, Lorr.: Au SW de Grevenmacher, Kelsbaach (L9.53), sur terre, mélangé avec *Lepetogium pulvinatum*, 1981, P. Diederich 16785 (h).

This is an extremely rare, terricolous or muscicolous lichen species, previously known from Scotland (Orange et al. 2009), Sweden and Norway (Santesson et al. 2004), Austria (van den Boom et al. 1996b), North America (Esslinger 2009), and the Antarctic (South Shetland Is.) (Øvstedal & Lewis Smith 2001). The Luxembourg specimen is extremely reduced, but typical. The species is new for our study area.

### **Pyrenula chlorospila** Arnold

Belgium, Mosan: Dinant, between Falmignoul and Anseremme, Meuse valley, between Rochers de Freyr and Trou de la Jeunesse (H5.57), on *Fraxinus*, 2009, D. Van den Broeck 3275 (h).

This is a remarkable rediscovery of a species that was considered as extinct in Belgium after 1868. The species is not rare in northern France (Boulonnais).

### **Ramalina canariensis** Steiner

Belgium, Fl.: Wingene, Sint-Pietersveldstraat (D2.13), on *Populus*, 2008, D. Van den Broeck 2658 (h); Petegem (Wortegem-Petegem), De Langemeersen, nature reserve (E2.38), on *Populus*, 2009, D. Van den Broeck 2920 (h). Camp.: Bree, Soerdijkstraat (C7.34), on *Quercus*, 2008, D. Van den Broeck 2619 (h). Brab.: Vilvoorde, Otto Dementockdreef (D4.57), on *Populus*, 2008, D. Van den Broeck 2583 (h).

France, Boul.: Pas-de-Calais, Audinghen, bois d'Haringzelle (E22.25), on *Fraxinus*, 2009, D. Van den Broeck 1066 (h).

This macrolichen is new for our study area. See comments under *R. lacera*.

### **Ramalina lacera** (With.) J.R. Laundon

Belgium, Fl.: Ieper, Noorderring (E1.14), on *Populus*, 2008, D. Van den Broeck 2484 (h).

*Ramalina lacera* was reported several times in Belgium near Koksijde after 1900. No herbarium specimen appears to exist, but a stereophoto has been published by Massart (1910: photo 281) and reproduced by Diederich & Sérusiaux (2000: 13). Fertile material has also been discovered near Furnes in 1954 (Barkman 1990: 14). In northern France, the species is known from many older records (see distribution map in Sérusiaux et al. 2004), the most recent being from 1973 (Sparrius et al. 2002). The species was subsequently considered as extinct in our region.

Recently, several populations of *Ramalina* cf. *lacera* were discovered in Flanders and northern France. Examination by thin-layer chromatography revealed that the material is not homogeneous and that it belongs to two distinct species: four Belgian specimens (D. Van den Broeck 2583, 2619, 2658 and 2920) contain divaricatic acid and belong to *R. canariensis*. One Belgian specimen (D. Van den Broeck 2484) contains bourgeanic acid and belongs to *R. lacera*. *Ramalina lacera* has also recently been reported from Knokke (B Mar.) (Van den Broeck et al. 2006), but no specimen was collected. A recent French collection (D. Van den Broeck 1066) has not been examined by TLC, but its morphology is typically that of *R. canariensis*. All older records of *R. lacera* will have to be critically re-examined if herbarium material can be found.

### **Sphaerellothecium cladoniae** (Alstrup & Zhurb.) Hafellner

Luxembourg, Lorr.: W of Kayl, Monument des mineurs (M8.53), over mosses in a disused quarry, on *Cladonia pyxidata* subsp. *pocillum*, 2009, P. Diederich 16824 (h); E of Rodange, NE edge of Tételbierg, open place along path with young *Betula* and *Salix* trees (M8.31), terricolous, on *C. pyxidata* subsp. *pocillum*, 2003, P. van den Boom 30677 p.p. (h).

This is a very common and widespread, but much overlooked lichenicolous pyrenomycete, forming a dark, superficial, reticulate mycelium over the thalli of *Cladonia* species, over which minuscule, blackish perithecia develop (Zhurbenko 2004). It is new for our study area.

**Telogalla olivieri** (Vouaux) Nik. Hoffm. & Hafellner (Fig. 4)

Belgium, Mosan: Couvin, carrière du nord (J4.48), on *Xanthoria parietina*, 2008, D. Van den Broeck 2696 (h).

This species was known in our study area from an old Luxembourg specimen without known locality (Sérusiaux et al. 1999). It is here reported as new for Belgium.

### **Tubeufia heterodermiae** Etayo

Luxembourg, Lorr.: Hellange, Bêltzacker Weiher (M8.56), on *Salix*, on *Physcia tenella*, 2009, G. Marson (herb. Diederich).

This species has recently been published from Belgium (van den Boom & van den Boom 2006) and is here reported as new for Luxembourg.

### **Usnea flammea** Stirton

Belgium, Ard.: 'Rochers près Sougneux et Grand Duché de Luxembourg' (G7.36), c. 1850, leg. ? (LG, in herb. Morren, sub *Alectoria sarmentosa* Ach. *Usnea dichotoma* Hoffm.) (probably collected by Charles Morren 1807-58 or Edouard Morren 1833-86).

This almost certainly refers to the village Sougné in Belgium near Remouchamps, as there is no locality with a similar name in Luxembourg. The specimen contains stictic, menegazziac and lobaric acids (TLC). The species was previously known from a single specimen in the study area, without known locality, but almost certainly collected by F.-A. Tinant in Luxembourg (Lorr.) around 1840 (Sérusiaux et al. 1999). The species is new for Belgium.

### **Verrucaria hegetschweileri** Körb.

Luxembourg, Lorr.: W of Berdorf, along road to Grundhof, Vugelsmillen, near bridge of Hallerbach (L9.11), at the shaded base of *Alnus*, 2009, P. & B. van den Boom 43417 (h).

This rare species was known from a collection on the base of *Acer pseudoplatanus* in Belgium (Ard.) (Sérusiaux et al. 2003). It is new for Luxembourg.

### **Vouauxiella verrucosa** Petr. & Syd.

Belgium, Camp.: Westerlo, Abdij van Tongerlo (C5.57), on an old brick wall, on *Lecanora campestris*, 2008, D. Van den Broeck 2589 (h, herb. Diederich).

This species was reported from Belgium by Sérusiaux et al. (1999), but Sérusiaux et al. (2003) eventually stated that the material merely represents the more common *V. lichenicola* (Linds.) Petr. & Syd. with verrucose conidia. With this new specimen, the species can therefore definitely be added to the checklist of Belgium, Luxembourg and northern France.

### **Acknowledgments**

We warmly thank Martin Kukwa for identifying two *Lepraria* specimens and for detecting *Monodictys epilepraria* within *Lepraria* herbarium material, Guy Marson for communicating us his collection of *Tubeufia heterodermiae*, Jacqueline Poeck for allowing us to publish her specimen of *Physcia clementei*, Othmar Breuss for kindly confirming the identity of *Polyblastia gothica*, after examination of microscopical photos of our specimen, André Aptroot for sending us several specimens on loan, Francine Demuylder for help with TLC, and Claude Roux for interesting discussions on some critical species.

### **References**

- Aguirre-Hudson, B., 1991. A taxonomic study of the species referred to the ascomycete genus *Leptorhaphis*. *Bulletin of the British Museum (Natural History)*, *Botany* 21: 85-192.
- Aptroot, A. & N. J. Stapper, 2008. Flechten im Nationalpark Eifel und in den angrenzenden Ardennen - ein Exkursionsbericht. *Akt. Lichenol. Mitt. NF* 15: 14-42.
- Aptroot, A., M. Brand, K. van Herk & L. Sparrius, 2008a. Veranderingen in de checklist van de Nederlandse korstmossen en korstmosparasieten. *Buxbaumiella* 82: 6-13.
- Aptroot, A. L. Spier & D. Jordaens, 2008b. *Parmotrema pseudoreticulatum*: de verbeterde determinatie van *Parmotrema stuppeum* (Gewimperd schildmos). *Buxbaumiella* 80: 9-12.
- Arup, U., 2006. A new taxonomy of the *Caloplaca citrina* group in the Nordic countries, except Iceland. *Lichenologist* 38: 1-20.
- Arup, U., 2009. The *Caloplaca holocarpa* group in the Nordic countries, except Iceland. *Lichenologist* 41: 111-130.
- Arup, U. & E. Åkelius, 2009. A taxonomic revision of *Caloplaca herbidella* and *C. furfurea*. *Lichenologist* 41: 465-480.
- Atienza, V., S. Pérez-Ortega & J. Etayo, 2009. Two new conidial lichenicolous fungi from Spain

- indicate the distinction of *Lichenodiplis* and *Minutoexcipula*. *Lichenologist* 41: 223-229.
- Barkman, J. J., 1990. The epiphytic flora and vegetation along the Belgian and northern French coast in the fifties. *Mém. Soc. Roy. Bot. Belg.* 12: 11-19.
- Bouly de Lesdain, M., 1910. Recherches sur les lichens des environs de Dunkerque. Imprim. P. Michel, Dunkerque, 301 pp.
- Bouly de Lesdain, M., 1914. Recherches sur les lichens des environs de Dunkerque. Supplément I. Dunkerque. 189 pp.
- Brand, M., B. Coppins, P. P. G. van den Boom & E. Sérusiaux, 2009. Further data on the lichen genus *Bacidia* s. l. in the Canary Islands and Western Europe, with descriptions of two new species. *Bibl. Lichenol.* 99: 81-92.
- Breuss, O., 2009. A synopsis of the lichen genus *Placopyrenium* (Verrucariaceae), with descriptions of new taxa and a key to all species. *Bibl. Lichenol.* 99: 93-112.
- Church, J. M., B. J. Coppins, O. L. Gilbert, P. W. James & N.F. Stewart, 1996. Red data books of Britain and Ireland: lichens. Volume 1: Britain. Joint Nature Conservation Committee, Peterborough, 84 pp.
- Coppins, B. J. & A. Aptroot, 2008. New species and new combinations in *The Lichens of the British Isles*. *Lichenologist* 40: 363-374.
- De Beer, D. & D. Van den Broeck, 2008. Verassende mossen en lichenen in een stadpark: bezoek aan het Rivierenhof (Deurne) op 26 april 2006. *Muscillanea* 28: 15-23.
- Degelius, G., 1954. The lichen genus *Collema* in Europe: morphology, taxonomy, ecology. *Symb. Bot. Upsal.* 13: 1-499.
- Diederich, P. & E. Sérusiaux, 2000. The lichens and lichenicolous fungi of Belgium and Luxembourg. An annotated checklist. Musée national d'histoire naturelle, Luxembourg. 207 pp.
- Diederich, P., E. Sérusiaux & P. van den Boom, 1991. Lichens et champignons lichénicoles nouveaux ou intéressants pour la flore de la Belgique et des régions voisines. V. *Lejeunia* N.S. 136: 1-47.
- Diederich, P., J. Lambinon, E. Sérusiaux & 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.
- Diederich, P., D. Van den Broeck, D. Ertz, J. Signoret, A. Aptroot, L. Sparrius, D. Jordaens & E. Sérusiaux, 2006. Contribution to the knowledge of lichens in northern France. *Bull. Soc. Nat. luxemb.* 106: 53-62.
- Diederich, P., J. Kocourková, J. Etayo & M. Zhurbenko, 2007. The lichenicolous *Phoma* species (coelomycetes) on *Cladonia*. *Lichenologist* 39: 153-163.
- Diederich, P., D. Ertz, N. Stapper, E. Sérusiaux, D. Van den Broeck, P. van den Boom & C. Ries, 2009. The lichens and lichenicolous fungi of Belgium, Luxembourg and northern France. URL: <http://www.lichenology.info> [28.08.2009].
- Divakar, P.K., O. Blanco, D. L. Hawksworth & A. Crespo, 2005. Molecular phylogenetic studies on the *Parmotrema reticulatum* (syn. *Rimelia reticulata*) complex, including the confirmation of *P. pseudoreticulatum*. *Lichenologist* 37: 55-65.
- Ertz, D. & J.-P. Duvivier, 2006. Les lichens du bassin hydrographique de l'Hermeton (Belgique): flore et mesures de conservation. *Bull. Soc. Nat. luxemb.* 107: 39-62.
- Ertz, D., P. Diederich, A. M. Brand, P. van den Boom & E. Sérusiaux, 2008. New or interesting lichens and lichenicolous fungi from Belgium, Luxembourg and northern France. XI. *Bull. Soc. Nat. luxemb.* 109: 35-51.
- Ertz, D., J. Miadlikowska, F. Lutzoni, S. Dessein, O. Raspé, N. Vigneron, V. Hofstetter & P. Diederich, 2009. Towards a new classification of the Arthoniales (Ascomycota) based on a three-gene phylogeny focussing on the genus *Opegrapha*. *Myc. Res.* 113: 141-152.
- Esslinger, T. L., 2009. A cumulative checklist for the lichen-forming, lichenicolous and allied fungi of the continental United States and Canada (Version #15.). URL: <http://www.ndsu.nodak.edu/instruct/esslinge/chcklst/chcklst7.htm> [27.08.2009].
- Etayo, J. & P. Navarro-Rosinés, 2008. Una combinación y tres especies nuevas de *Lichenochora* (Phyllachorales, ascomicetes liquenícolas), y notas adicionales para el género. *Rev. Catal. Micol.* 30: 27-44.
- Etayo, J. & L. G. Sancho, 2008. Hongos liquenícolas del Sur de Sudamérica, especialmente de Isla Navarino (Chile). *Bibl. Lichenol.* 98: 1-302.
- Garnier-Delcourt, M., 2008. *Arrhenia peltigerina*, un basidiomycète lichénicole nouveau pour la mycoflore luxembourgeoise (Basidiomycota, Agaricales, Tricholomataceae). *Bull. Soc. Nat. luxemb.* 109: 3-7.
- Giralt, M., P. P. G. van den Boom & J. A. Elix (in press). *Endohyalina*, the genus in the Physciaceae to accommodate the species of the *Rinodina ericina*-group. *Mycological Progress* DOI 10.1007/s11557-009-0616-2.
- Gueidan, C., S. Savić, H. Thüs, C. Roux, C. Keller, L. Tibell, M. Prieto, S. Heiðmarsson,



- O. Breuss, A. Orange, L. Fröberg, A. Amtoft Wynns, P. Navarro-Rosinés, B. Krzewicka, J. Pykälä, M. Grube & F. Lutzoni, 2009. Generic classification of the Verrucariaceae (Ascomycota) based on molecular and morphological evidence: recent progress and remaining challenges. *Taxon* 58: 184–208.
- Hafellner, J., 2009. *Phacothecium* resurrected and the new genus *Phacographa* (Arthoniales) proposed. *Bibl. Lichenol.* 100: 85–121.
- Hafellner, J., G. Herzog & H. Mayrhofer, 2008. Zur Diversität von lichenisierten und lichenicolen Pilzen in den Ennstaler Alpen (Österreich: Steiermark, Oberösterreich). *Mitt. Naturwiss. Ver. Steiermark* 137: 131–204.
- Harris, R. C., 2009. Four novel lichen taxa in the lichen biota of eastern North America. *Op. Philolich.* 6: 149–156.
- Hellemans, K., 2008. Beheerseenheid OOO van het natuurgebied Buitengoor in Mol een bijzondere ecotoop voor korstmossen (lichenen.). *Muscillanea* 27: 9–14.
- Jørgensen, P. M. & J. Motiejūnaitė, 2005. *Lem-mopsis pelodes* found in Lithuania. *Graphis Scripta* 17: 17–19.
- Kaschik, M., 2006. Taxonomic studies on saxicolous species of the genus *Rinodina* (lichenized ascomycetes, Physciaceae) in the Southern Hemisphere with special emphasis in Australia and New Zealand. *Bibl. Lichenol.* 93: 1–162.
- Killmann D. & Fischer E., 2008. Bemerkenswerte Flechtenfunde aus Rheinland-Pfalz und Luxemburg. *Decheniana* 161: 29–32.
- Kuborn, F. & P. Diederich, 2008. Die silicolen Flechten im Naturpark Obersauer (Luxemburg). *Bull. Soc. Nat. luxemb.* 109: 17–34.
- Kukwa, M. & P. Diederich, 2005. *Monodictys epilepraria*, a new species of lichenicolous hyphomycetes on *Lepraria*. *Lichenologist* 37: 217–220.
- Kukwa, M. & P. Diederich, 2007. New records of leprarioid lichens from Luxembourg and France, with the first report of fertile *Lecanora rouxii*. *Bull. Soc. Nat. luxemb.* 108: 15–19.
- Kukwa, M. & A. Flakus, 2009. *Lepraria glaucosorediata* sp. nov. (Stereocaulaceae, lichenized Ascomycota) and other interesting records of *Lepraria*. *Mycotaxon* 108: 353–364.
- Laundon, J. R., 2003. Six lichens of the *Lecanora varia* group. *Nova Hedwigia* 76: 83–111.
- Massart, J., 1910. Esquisse de la géographie botanique de la Belgique, 2 vol. H. Lamertin, Bruxelles.
- Müller, T., 1958. Über die Flechtenflora des Kantons Malmedy. *Bull. Jard. Bot. Etat Bruxelles* 28: 129–159.
- Nelsen, M.P., H.T. Lumbsch, R. Lücking & J.A. Elix, 2008. Further evidence for the polyphyly of *Lepraria* (Lecanorales: Stereocaulaceae). *Nova Hedwigia* 87: 361–371.
- Orange, A., O. W. Purvis & P. W. James, 2009. *Polyblastia* A. Massal (1852). In: Smith, C.W., A. Aptroot, B. J. Coppins, A. Fletcher, O. L. Gilbert, P. W. James & P. A. Wolseley (eds.). The lichens of Great Britain and Ireland, British Lichen Society, London: 722–727.
- Otálora, M. A. G., I. Martínez, C. M. Molina, G. Aragón & F. Lutzoni, 2008. Phylogenetic relationships and taxonomy of the *Leptogium lichenoides* group (Collemataceae, Ascomycota) in Europe. *Taxon* 57: 907–921.
- Øvstedal, D. O. & R. I. Lewis Smith, 2001. Lichens of Antarctica and South Georgia: a guide to their identification and ecology. Studies in Polar Research, Cambridge University Press, Cambridge, England, 411 pp.
- Purvis, O. W., B. J. Coppins, D. L. Hawksworth, P. W. James & D. M. Moore, 1992. The lichen flora of Great Britain and Ireland. Natural History Museum Publications & British Lichen Society, London, 710 pp.
- Roux, C., 2009. *Naetrocymbe saxicola*, likeno kun *Trentepohlia*. *Bull. Soc. linn. Provence* 60: 127–142.
- Roux C., M. Boulanger & N. Malle, 2009. *Caloplaca itiana* sp. nov., espèce nouvelle de lichen du littoral de la Manche (France). *Bull. Ass. fr. Lichénologie* 34: 1–10.
- Rouxhet S., E. Sérusiaux & J. Clesse, 2008. L'intérêt botanique des anciennes exploitations de phyllades ardoisiers de Vielsalm. In Goemaere E. (ed.), Ardoise et Coticule en Terre de Salm. Des Pierres et des Hommes. Institut Royal des Sciences Naturelles de Belgique, Service Géologique de Belgique, coll. Geosciences, pp. 275–283.
- Saag, L., A. Saag & T. Randlane, 2009. World survey of the genus *Lepraria* (Stereocaulaceae, lichenized Ascomycota). *Lichenologist* 41: 25–60.
- Santesson, R., R. Moberg, A. Nordin, T. Tønberg & O. Vitikainen, 2004. Lichen-forming and Lichenicolous Fungi of Fennoscandia. Museum of Evolution, Uppsala University, Uppsala, Sweden, 359 pp.
- Sérusiaux, E., 1989. Liste rouge des macrolichens dans la Communauté Européenne. Université de Liège, Dép. de Botanique.
- Sérusiaux, E., P. Diederich, M. Brand & P. van den Boom, 1999. New or interesting lichens and lichenicolous fungi from Belgium and Luxembourg. VIII. *Lejeunia* n. S. 162: 1–95.

- Sérusiaux, E., P. Diederich, D. Ertz & P. van den Boom, 2003. New or interesting lichens and lichenicolous fungi from Belgium, Luxembourg and northern France. IX. *Lejeunia* n. S. 173: 1-48.
- Sérusiaux, E., P. Diederich & J. Lambinon, 2004. Les macrolichens de Belgique, du Luxembourg et du nord de la France. Clés de détermination. *Ferrantia* 40: 1-188.
- Signoret, J. & P. Diederich, 2000. Intérêt de la biodiversité des champignons lichénisés et lichénicoles pour la gestion conservatoire d'une Réserve Naturelle: la R.N. de Montenach (France, Lorraine). *Lejeunia* N. S. 163: 1-11.
- Smith, C.W., A. Aptroot, B. J. Coppins, A. Fletcher, O. L. Gilbert, P. W. James & P. A. Wolseley, 2009. The lichens of Great Britain and Ireland. British Lichen Society, London, 1046 pp.
- Sparrius, L. B., P. Diederich, J. Signoret & E. Sérusiaux, 2002. The lichen flora of the Boulonnais (France, Pas-de-Calais). *Belg. Journ. Bot* 135: 50-75.
- Thüs, H. & M. Schutz (2008 ['2009']). Süßwasserflora von Mitteleuropa, Bd 21/1: Fungi, 1. Teil: Lichens. Spektrum Akademischer Verlag, Heidelberg, 223 pp.
- van den Boom, P. P. G. & A. M. Brand, 2008a. Some new *Lecanora* species from western and central Europe, belonging to the *L. saligna* group, with notes on related species. *Lichenologist* 40: 465-497.
- van den Boom, P. P. G. & A. M. Brand, 2008b. New records of lichens, lichenicolous and allied fungi from Belgium and the Netherlands. *Sauteria* 15: 95-101.
- van den Boom P. & B. van den Boom, 2006. An inventory of lichens and lichenicolous fungi in northern Belgium (area of Stramproi-erbroek). *Bull. Soc. Nat. luxemb.* 106: 39-52.
- van den Boom, P., P. Diederich & E. Sérusiaux, 1996a. Lichens et champignons lichénicoles nouveaux ou intéressants pour la flore de la Belgique et des régions voisines. VII. *Bull. Soc. Nat. Luxemb.* 97: 81-92.
- van den Boom, P. P. G., O. Breuss, L. Spier & A. M. Brand, 1996b. Beitrag zur Flechtenflora Kärntens Ergebnisse der Feldtagung der Bryologischen und Lichenologischen Arbeitsgruppe der KNNV in Weissbriach 1994. *Linzer biol. Beitr.* 28: 619-654.
- van den Boom, P., E. Sérusiaux, P. Diederich, M. Brand, A. Aptroot & L. Spier, 1999. A lichenological excursion in May 1997 near Han-sur-Lesse and Saint-Hubert, with notes on rare or critical taxa of the flora of Belgium and Luxembourg. *Lejeunia* n. S. 158: 1-58.
- Van den Broeck, D., 2005. Zeldzame lichenen uit de groep van de Parmeliaceae in Vlaanderen. *Dumortiera* 84: 26-27.
- Van den Broeck, D., 2008. De lichenen van het kerkhof van Dieweg te Ukkel (Brussels Hoofdstedelijk Gewest). Verslag van de VWBL-excursie op 5 juli 2008. *Muscillanea* 28: 31-35.
- Van den Broeck, D. & P. Hantson, 2008. Verslag van de excursies met de VWBL naar Roeselare op 5 januari en 26 april 2008. *Muscillanea* 28: 24-30.
- Van den Broeck, D., A. Aptroot & D. Jordaens, 2006. Een lichenologisch verslag van het voorjaarsweekend 2006 naar Zeeuws-Vlaanderen en aangrenzend België. *Buxbaumiella* 75: 16-25.
- Van den Broeck, D., D. De Beer & H. Stieperaere, 2008a. De lichenen en de mossen van de VWBL-excursie naar het domein Ter Rijst in Vlaams-Brabant (7 april 2007). *Muscillanea* 28: 4-11.
- Van den Broeck, D., D. Jordaens, L. Sparrius, L. Spier & A. Aptroot, 2008b. Nieuwe lichenen en lichenicole fungi uit Vlaanderen. *Dumortiera* 95: 8-14.
- Van den Broeck, D., L. Spier & D. Ertz, 2008c. Verslag van de internationale korstmossendriedaagse in en rond het Zoniënwoud, 1-3 juni 2007. *Muscillanea* 27: 25-37.
- Van den Broeck D., A. Aptroot, D. Jordaens & L. Spier, 2009. Korstmossen in de Boulonnais (Frankrijk, Pas-de-Calais). *Buxbaumiella* 84: 13-31.
- Wedin, M., M. Westberg, A. T. Crewe, A. Tehler & O. W. Purvis, 2009. Species delimitation and evolution of metal bioaccumulation in the lichenized *Acarospora smaragdula* (Ascomycota, Fungi) complex. *Cladistics* 25: 161-172.
- Wirth, V., 1995. Die Flechten Baden-Württembergs, Teil 1 & 2. Eugen Ulmer GmbH & Co., Stuttgart, 1006 pp.
- Zhurbenko, M. P. & V. Alstrup, 2004. Lichenicolous fungi on *Cladonia* mainly from the Arctic. *Symb. Bot. Upsal.* 34: 477-499.