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

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Abstract. Studies of large and mainly recent collections of lichens and lichenicolous fungi led to the addition of 27 taxa to the flora of Belgium, Luxembourg and northern France: *Arthonia coronata*, *A. mediella*, *Candelaria pacifica*, *Chaenothecopsis parasitaster*, *Dacampia cyrtellae*, *Dactylospora parellaria*, *Diplotomma epipolium* var. *parasiticum*, *Epigloea urosperma*, *Graphis betulina*, *Graphium aphthosae* (also new to the Netherlands), *Lepraria toensbergiana* (also new to France), *Lichenopeltella maculans* (also new to France), *Melaspilea bagliettoana*, *Miriquidica atrofulva*, *Mycocalicium subtile*, *Phaeopyxis punctum*, *Phaeosporobolus chlaroterae* (also new to Norway), *Placynthium posterulum*, *Pleospora physciae*, *Pronectria septemseptata*, *Sclerophora amabilis*, *Spiloma auratum*, *Stigmidium xanthoparmeliarum*, *Strangospora deplanata*, *Trapeliopsis wallrothii*, *Tylophoron hibernicum* and *Xanthoria ucrainica*. 11 additional taxa were reported in recent publications: *Buellia saxorum*, *Cladophialophora cladoniae*, *Fusicladium peltigericola*, *Graphis macrocarpa*, *G. pulverulenta*, *Laetisaria lichenicola*, *Lichenoconium aeruginosum*, *Ochrolechia mahluensis*, *Phoma ficuzzae*, *Trimmatostroma quercicola* and *Verrucaria rhizicola*. New to Belgium: *Echinodiscus lesdainii*, *Tremella hypogymniae*; new to Luxembourg: *Caloplaca arcis*; new to France: *Graphis macrocarpa*, *Laetisaria lichenicola*, *Lichenochora obscuroides*, *L. weillii*, *Lichenopeltella peltigericola*. Additional notes are given on some rare and threatened macrolichen species. *Arthonia digitatae* and *Placynthium stenophyllum* have to be deleted from the checklist. The following new combinations are proposed: *Alyxoria culmigena* (Lib.) Ertz (basionym *Opegrapha culmigena*), *A. ochrocincta* (Werner) Ertz (*O. ochrocincta*), *A. variiformis* (Anzi) Ertz (*O. variiformis*), *A. viridipruinosa* (B. J. Coppins & R. Yahr) Ertz (*O. viridipruinosa*), *Zwackhia bonplandii* (Fée) Ertz (*O. bonplandii*), *Z. circumducta* (Nyl.) Ertz (*O. circumducta*), *Z. prosodea* (Ach.) Ertz (*O. prosodea*), *Z. robusta* (Vain.) Ertz (*O. robusta*) and *Z. sorediifera* (P. James) Ertz (*O. sorediifera*).

1. Introduction

This paper continues the series of notes on the flora of lichens and lichenicolous fungi in Belgium, Luxembourg and northern France (Diederich & Sérusiaux 2000, Eichler et al. 2010). It further includes the most recent updates regarding nomenclature and taxonomy of the species present in our study area. In the enumeration of specimens, the abbreviation 'h' refers to the private herbarium of the collector. The term 'checklist' is used for the checklist of lichens and lichenicolous fungi in Belgium, Luxembourg and northern France (Diederich et al. 2012), and the term 'checklist area' is used for the area covered by that checklist.

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

Crous et al. (2010) described the new hyphomycete *Fusicladium peltigericola* Crous & Diederich, isolated from galls on *Peltigera rufescens* induced by *Hawksworthiana peltigericola*, collected in Luxembourg.

Diederich (2010) described the new lichenicolous hyphomycete *Sclerococcum cladoniae* Diederich, developing minuscule sporodochia on the thallus of *Cladonia* species in Luxembourg. Because of morphological similarities with the lichenicolous *Cladophialophora parmeliae*, the species was eventually combined in that genus, as *C. cladoniae* (Diederich) Diederich (Diederich et al. 2012).

Diederich et al. (2010) described the facultative lichenicolous hyphomycete *Trimmatostroma quercicola* Diederich, U. Braun & Heuchert, growing over dying lichens on *Quercus* bark or sometimes directly on the bark, in Luxembourg and Belgium.

Diederich et al. (2011) described the new lichenicolous basidiomycete *Laetisaria lichenicola*, Diederich, Lawrey & Van den Broeck collected on corticolous *Physcia* species in Luxembourg, Belgium and Germany. An additional French specimen has recently been examined by us: France, Var, Haute Siagne, c. 3.5 km S of Fayence, 1.5 km N of St-Paul-en-Forêt, area 'Trestaure' NE of camping site 'le Parc', on *Quercus pubescens*, on *Physcia adscendens*, 25.4.2000, *Triebel* & *Rambold*, Triebel: *Microfungi Exsiccati* 540 [GZU! (with *Marchandiomyces corallinus*), BPI (examined by Dr M. Ghobadnejhad)].

Duvivier et al. (2011) discovered *Buellia saxorum* A. Massal., a species new to our checklist area, in the Sambre valley in Belgium.

In his remarkable revision of European *Ochrolechia*, Kukwa (2011) reported several species from our checklist area: *O. androgyna* (Hoffm.) Arnold s.str. (Belgium, Luxembourg), *O. bahusiensis* H. Magn. (Belgium, Luxembourg), *O. mahluensis* Räsänen (Luxembourg), *O. microstictoides* Räsänen (Belgium), *O. parella* (L.) A. Massal. (France: Ardennes), *O. subviridis* (Høeg) Erichsen (Belgium, Luxembourg, France: Pas-de-Calais) and *O. turneri* (Sm.) Hasselrot (Belgium, Luxembourg, France: Meuse). *Ochrolechia mahluensis* is reported for the first time from our checklist area.

Lawrey et al. (2011) presented a molecular phylogenetic study of the lichenicolous genus *Lichenoconium* and described a new species, *Lichenoconium aeruginosum* Diederich, M. Brand, van den Boom & Lawrey, collected in Luxembourg, northern France and the Netherlands.

The new *Verrucaria rhizicola* Aptroot & Thüs has been described from the forêt de Boulogne in France (Boul. district) (Lumbsch et al. 2011), where it grew on roots of *Alnus* occasionally immersed in a rivulet.

Stieperaere & Van den Broeck (2011) and Van den Broeck & De Beer (2011) presented inventories of lichens and mosses in several Flemish nature reserves. Van den Broeck & Diederich (2011) published an inventory of the lichen flora of the cemetery of Steenbrugge near Brugge. Van den Broeck (2011a) summarized the efforts of lichen mapping in the Antwerp Province in Belgium and presented new lichen records from 12 localities, incl. *Fuscidea pusilla* Tønsberg newly reported from our checklist area; however, unpublished studies by Van den Broeck & Ertz questioned if *F. pusilla* can be distinguished from young and sterile *F. lightfootii* in Belgium and Luxembourg, and therefore we will not include the species in our checklist until more evidence, based on the entire material of the checklist area, is available. Van den Broeck (2011b) presented the report of an excursion to Limburg (Flanders), where they discovered *Lemmopsis arnoldiana* (new to Belgium) and *Cladonia cariosa* (new to Flanders). Van den Broeck & Ertz (2011) reported 189 species of lichens and lichenicolous fungi growing around the National Botanic Garden of Belgium, representing the highest number of species ever observed in one area in Flanders. Van den Broeck (2010) documented the increase of lichens with *Trentepohlia* in Flanders.

In a phylogenetical study of lichenicolous *Phoma* species, Lawrey et al. (2012) reported *P. ficuzzae* Brackel from France, Pas-de-Calais on the thallus of *Ramalina fastigiata*;

the species is new to our checklist area and to France. *Phoma cladoniicola* Diederich, Kocourk. & Etayo, previously known only from *Cladonia*, has also been found on *Ramalina pollinaria* and *Squamarina cartilaginea* in our area of study, and *P. foliaceiphila* Diederich, Kocourk. & Etayo, formerly known only from *Cladonia*, has been reported from *Parmelia sulcata* in Belgium.

Ecological papers mentioning lichens in the checklist area are rare and it is therefore of interest to report the recent publication by Verstraeten et al. (2012) on the impact of declining atmospheric deposition in Flanders (northern part of Belgium); they report that 'Despite substantial reductions, current N deposition levels still exceed 4–8 times the critical load for safeguarding sensitive lichen species, and are still 22–69 % above the critical load for maintaining ground vegetation diversity'.

3. Taxonomical and nomenclatural changes

Harris (2009) introduced the new generic name *Leimonis* R. C. Harris for *Micarea erratica* (Körb.) Hertel, Rambold & Pietschmann [as *Leimonis erratica* (Körb.) R. C. Harris & Lendemer]. Sérusiaux et al. (2010) included this species in a molecular phylogenetic analysis and explained that further studies are required to understand the position of this and several other closely related *Micarea* species. We prefer therefore to wait until more results become available, and to continue treating this species within *Micarea*.

A molecular study of the *Physcia aipolia-P. caesia* group supports recognition of *P. subalbinea* as distinct from *P. caesia*, and also the distinction of *P. aipolia* and *P. caesia* (Lohtander et al. 2009).

Baloch et al. (2010) suggested that *Belonia* and *Pachyphiale* are synonyms of *Gyalecta*, based on molecular data, but they did not introduce any new combinations. Amongst the species known from our checklist area, *Pachyphiale carneola* (Ach.) Arnold has consequently to be named *Gyalecta carneola* (Ach.) Hellb., and *P. fagicola* (Arnold) Zwackh becomes *G. fagicola* (Arnold) Kremp., whilst *Belonia nidarosiensis* (Kindt) P.M. Jørg. & Vězda has never been combined in *Gyalecta* so far.

Etayo & Triebel (2010) showed that *Clypeococcum psoromatis* (A. Massal.) Etayo is the correct name to be used for the lichenicolous ascomycete traditionally called *C. epicrassum* (H. Olivier) Nav.-Ros. & Cl. Roux.

Laundon (2010) described the new *Lecanora antiqua* J. R. Laundon for the species commonly called *L. conferta* auct. He further explained that *L. saxicola* (Pollich) Ach. is the correct name for *L. muralis* Rabenh., but that a formal proposal to retain the current name *L. muralis* may eventually be published. Therefore, we will continue using the name *L. muralis* in our checklist.

In a molecular study of the *Cladonia arbuscula* (Wallr.) Flotow group (Piercey-Normore et al. 2010), the authors recommended recognizing *C. mitis* Sandst. at subspecies level, as *C. arbuscula* subsp. *mitis* (Sandst.) Ruoss. Furthermore, they provisionally suggested including subsp. *squarrosa* (Wallr.) Burgaz in subsp. *beringiana* Ahti. As long as subsp. *arbuscula* has not been subjected to molecular analyses, we prefer, however, to continue using the name *C. arbuscula* subsp. *squarrosa*.

Pino-Bodas et al. (2010) showed in a phylogenetic study that *Cladonia rei* Schaer. and *C. subulata* (L.) F. H. Wigg. are two distinct species, characterized by a different chemistry and subtle morphological differences, in addition to different ecological requirements.

Arup & Sandler Berlin (2011) carried out a morphometric and a molecular analysis of *Melanelixia fuliginosa* and concluded that the two subspecies *fuliginosa* and *glabratula* represent distinct species. The new combination *Melanelixia glabratula* (Lamy) Sandler & Arup is subsequently proposed.

Diederich & van den Boom (2011) introduced the new name *Verrucaria breussii* Diederich & van den Boom for the species previously named *V. sorbinea* Breuss. The species is currently known from Luxembourg (type locality), Belgium and Spain (Mallorca) (Breuss 1998, Sérusiaux et al. 2003).

Ertz & Tehler (2011a, 2011b) presented a new phylogeny of several groups within the Arthoniales, together with taxonomic implications. The following taxonomic changes refer to taxa from our checklist: *Alyxoria ochrocheila* (Nyl.) Ertz & Tehler (= *Opegrapha ochrocheila*), *A. varia* (Pers.) Ertz & Tehler (= *O. varia*), *Dendrographa decolorans* (Sm.) Ertz & Tehler (= *Schismatomma decolorans*), *D. latebrarum* (Ach.) Ertz & Tehler (= *Lecanactis latebrarum*), *Sparria endlicheri* (Garaov.) Ertz & Tehler (= *Arthonia endlicheri*), *Zwackhia viridis* (Ach.) Poetsch & Schied. (= *Opegrapha viridis*).

Hafellner (2011) revised the generic circumscription of *Merismatium* and reinstated the genus *Halospora* for the species presenting a distinct perispore. Amongst the species present in our checklist area, the following taxa are concerned: *Halospora deminuta* (Arnold) Tomas. & Cif., *H. discrepans* (Arnold) Hafellner and *H. scammoeca* (Lettau) Hafellner.

A new taxonomy of *Graphis scripta* s. lat., proposed by Neuwirth & Aptroot (2011), will be discussed below.

Spribille et al. (2011) demonstrated that *Mycoblastus fucatus* (Stirt.) Zahlbr. does not group with the other known species of *Mycoblastus*. Subsequently, they introduced the new generic name *Violella* and the new combination *Violella fucatus* (Stirt.) T. Sprib.

Westberg et al. (2011) described the new genus *Silobia* M. Westb. & Wedin for the *Acarospora smaragdula* complex. Later, Roux & Navarro-Rosinés (2011) explained that *Trimmatothelopsis* Zschacke is an earlier name for this group. Arcadia & Knudsen (2012) eventually found that the correct name for this genus is *Myriospora* Uloth. One of those species is known from our checklist area, viz. *M. rufescens* (Ach.) Uloth (= *Acarospora rufescens* (Ach.) Kremp.). An additional species, *M. smaragdula* (Ach.) Uloth has been reported several times from this area, but the corresponding material from Belgium and northern France is now included in *M. rufescens*. In the same paper, the new genus *Caeruleum* K. Knudsen & L. Arcadia is described, with the type species *C. heppii* (Körb.) K. Knudsen & L. Arcadia (= *Acarospora heppii* Körb., *Myriospora heppii* Hepp nom. inval.).

Diederich et al. (2012) used molecular and morphological characters to show that the lichenicolous coelomycete *Phoma cytospora* belongs to the Arthoniaceae. They subsequently described the new genus *Briancoppinsia* for it and proposed the new combination *B. cytospora* (Vouaux) Diederich, Ertz, Lawrey & van den Boom.

Schmitt et al. (2012) proposed a new circumscription of *Varicellaria*, by including also species with aseptate ascospores previously treated in *Pertusaria*. Two species from our checklist area are concerned: *V. hemisphaerica* (Flörke) Schmitt & Lumbsch (=*Pertusaria hemisphaerica*) and *V. lactea* (L.) Schmitt & Lumbsch (=*P. lactea*).

A phylogenetic analysis of *Xanthoria* s. lat. (Fedorenko et al. 2012) resulted in a new arrangement of these taxa in a number of monophyletic groups and in the description of several new genera. Most *Xanthoria* species from our checklist area were subsequently combined in other genera. However, as almost all *Caloplaca* species were missing in this analysis, we consider it as premature to adopt the new nomenclature proposed by these authors.

4. New or interesting reports

Arthonia coronata Etayo

Belgium, Mosan: Romedenne, argilière à 1 km au SW du village, rive droite du ruisseau 'La Chinelle' (J5.13), pelouse argilo-schisteuse très vaste, sur *Cladonia subulata/rei*, 2004, *Ertz* 7277 & *Duvivier* (BR).

Luxembourg: S. loc., on *Cladonia subulata*, < 1850, *Tinant* 659 (LUX).

The Luxembourg specimen had been published as *Arthonia digitatae* Hafellner by Sérusiaux et al. (2003), but eventually proved to belong to *A. coronata*, initially described from *Flavoparmelia caperata*, but later also reported from *Cladonia* thalli, and characterized by the presence of numerous, brown hairs covering the ascomata (Svensson & Westberg 2010). The species is new to our checklist area, whilst *Arthonia digitatae* has to be removed from that list.

Arthonia mediella Nyl.

France, Mosan: Nord, N of Fourmies, NE of Willies, S of Clairfayts, W of road D83, W side of bois de Tout Vent (J4.21), open forest with *Carpinus* and a few mature *Quercus* trees, on *Quercus*, 2010, *van den Boom* 44895 (h).

This rare species is new to the checklist area.

Caloplaca arcis (Poelt & Vězda) Arup

Luxembourg, Ard.: Bourscheid, château (K8.34), rochers siliceux et murs autour du château, 2011, *Diederich* 17202 (h) & *Aptroot*. – Lorr.: Schengen, Stützmauer an der Mosel (M9.52), auf Horizontalfläche von Mauer, 2011, *Cezanne* & *Eichler* 8301 (h, hb Diederich).

This species has recently been published from Belgium (Diederich et al. 2009) and is here reported as new to Luxembourg.

Candelaria concolor (Dicks.) Stein

Belgium, Mar.: Zevekote (C1.44), on *Populus*, 1962, *Delvosalle* (LG). – Fl.: Mechelen, Vrijbroekpark, public park (D4.27), on *Acer*, 2005, *Van den Broeck* 2335 (BR); Onze-Lieve-Vrouw-Waver, cemetery (D5.11), on *Salix*, 2004, *Van den Broeck* 2167 (BR); Terhagen (Rumst), clay pits (D416), on *Salix*, 2004, *Van den Broeck* 1397 (BR); Niel, cemetery (C4.55), on *Tilia*, 2004, *Van den Broeck* 1340 (BR); Maldegem, Torredreef, trees along the road (C2.35), on *Populus* 2008, *Van den Broeck* 2633 (BR); Kortrijk, parking of petrol station along highway E17/R8 (E2.42), on *Populus*, 2011, *Van den Broeck* 5451 (BR). – Camp.: Arendonk, settlement Huiskens, trees along the road (B6.52), on *Quercus*, 2003, *Van den Broeck* 1222 (BR); Merksplas, Carons Hofke, castle park (B5.36), on *Malus*, 2003, *Van den Broeck* 1314 (BR). – Brab.: Uccle (E4.45), < 1900, *Delogne* (BR-LICH 2467-42); Brussels, Anderlecht, Felix Paulsenlaan (E4.24), on *Acer*, 2004, *Van den Broeck* 714 (BR); Brussels, Anderlecht, Minister Wautersplein, basketsports park (E4.34), on *Tilia*, 2011, *Van den Broeck* 5462 (BR); Brussels, Haren, Sint-Elisabethstraat, pétanque court (E4.16), on *Tilia*, 2011, *Van den Broeck* 5460 (BR); Brussels, Oudergem, Guillaume Van Néromstraat (E4.37), on *Tilia*, 2011, *Van den Broeck* 5459 (BR); Brussels, Schaarbeek, Paul Hymanslaan, along road in residential area (E4.27), on *Tilia*, 2011, *Van den Broeck* 5457 (BR); Brussels (E4.26), cemetery, 2011, *Van den Broeck* 5076 (BR); Brussels, Claessensstraat (E4.25), bomen langsheen kanaal, 2011, *Van den Broeck* 5077 (BR); Brussels, Antwerpsesteenweg (E4.25), park, 2011, *Van den Broeck* 5078 (BR). – Mosan: Boussu-lez-Walcourt, route de Beaumont (H4.55), sur *Ulmus*, 1964, *Lambinon* 64/1544 (LG); Serinchamps, dans le village (H6.45), sur *Aesculus*, 1959, *Lambinon* 59/190bis (LG); Merlemont, près de la route Givet-Philippeville (J5.12), sur *Tilia*, 1959, *Lambinon* 59/666 (LG); Philippeville, entrée W de la ville (H5.51), sur *Populus*, 1959, *Lambinon* 59/656bis (LG); Gonrieux, entre Gonrieux et Dailly, au bord de la route Couvin-Chimay (J4.57), sur *Ulmus*, 1964, *Lambinon* 64/40 (LG). – Ard.: Env. de Tournay (K6.58), < 1900, herb. Westendorp (BR-LICH 2465-40); Falize (G8.42), 1958, *Müller* (LG); Beausaint, au bord de la route La Roche-Champlon (J7.13), sur *Tilia*, 1964, *Lambinon* 64/810 (LG); Boutonville (comm. de Baileux), au bord de la route Chimay-Couvain (J4.56), sur *Ulmus*, 1964, *Lambinon* 64/481 (LG); Eupen, à proximité de la route de Welkenraedt, peu avant la limite communale (F8.33), sur *Fraxinus*, 1963, *Lambinon* 63/238 (LG); Macon, Hainaut, le long de la route vers Chimay (J4.53), sur *Ulmus*, 1962, *J. Duvigneaud* 62/526 (LG); Charneux (Harsin), au bord de la route Marche-Arlon (F8.52), sur *Fraxinus*, 1962, *Lambinon* 62/1517 (LG); entre Louette St. Pierre et Houdrémont (K5.28), sur *Ulmus*, 1960, *Lambinon* 60/2226 (LG); Jupille (comm. Hodister), près de l'Ourthe (H7.52), sur *Sambucus nigra*, 1959, *Lambinon* 66/153 (LG). – Lorr.: Torgny, bord de la route près de la chapelle N.D. des Affligés (M7.42), sur *Fraxinus*, 1965, *Lambinon* 65/651 (LG); Chassepierre, au bord de la route de Florenville (L6.46), sur *Fraxinus*, 1962, *Lambinon* 62/1831 (LG); Tintigny, bord de la route de Sainte-Marie-sur-Semois (L7.52), sur *Fraxinus*, 1962, *Lambinon* 62/1867 (LG).

Luxembourg, Lorr.: Cruchten (L8.15), 1889, *Feltgen* 24 (LUX); Bissen (L8.24), 1890, *Feltgen* 25 (LUX); Christnach, village (L8.28), sur *Malus*, 1966, *Lambinon* 66/1400 (LG); Schrondweiler, bord de la route de Larochette (L8.16), sur *Sorbus*, 1966, *Lambinon* 66/1381 (LG); à l'W de Remich, au N du Reckingerhof (M9.31), sur *Malus*, 1980, *Diederich* 2695 (h).

France, Picard: Somme, Rambure, parc du château de Rambure (K22.26), 2001, *Diederich* 15046 (h). – Ard.: Ardennes, Entre We et Osnes, route Carignan-Clémency (M6.14), 1968, *Lambinon* 68/314 (LG).

Westberg & Arup (2010, 2011) demonstrated that *Candelaria concolor* s. lat. consists of two distinct species, *C. concolor* s. str. and the new *C. pacifica*. Although the latter was initially described from North America, it eventually proved to be widespread and common in Europe. *Candelaria pacifica* is rather easily distinguished from *C. concolor* by a combination of several morphological characters, especially the non-corticate

Fig. 1. *Arthonia coronata* (*Tinant* 659), a lichenicolous ascomycete developing over podetia of *Cladonia* species. Section through ascoma in H_2O. Scale bar: 50 µm.

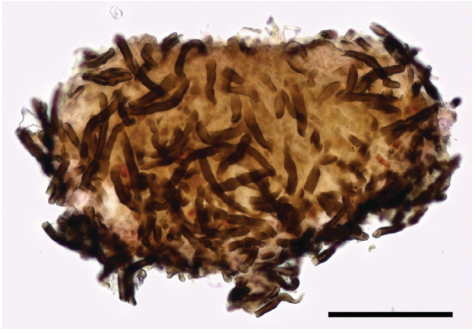

Fig. 2. *Arthonia coronata* (*Tinant* 659). Surface view of ascoma margin in H_2O, showing the characteristic brown hairs. Scale bar: 50 µm.

lower surface of the thallus (Stapper 2012). A revision of the entire herbarium material from our checklist area showed that approximately half of the specimens belong to each of the two species. Interestingly, the many specimens collected by J. De Sloover in the Dender valley in Belgium (Brab). in the 1960s all belong to *C. pacifica*. On the other hand, all but one of the many specimens collected in Belgium (Fl. and Brab.) by D. Van den Broeck after 2000 belong to *C. concolor*, suggesting that this species became more abundant in recent years. Similarly, P. van den Boom observed that *C. pacifica* is very rare in the Netherlands, while *C. concolor* is rather common now.

Candelaria pacifica M. Westb. & Arup

Belgium, Fl.: Hofstade, vers Gijzegem (Aalst) (D3.48), sur *Populus*, 1962, *De Sloover* 272 (LG). – Brab.: Welle (Meersen) (E3.18), sur *Populus*, 1954, *De Sloover* 248 (LG); Sint-Goriks-Oudenhove (E3.23), sur *Populus*, 1962, *De Sloover* 290 (LG); Sint-Martens-Lierde, Den Berg (E3.44), sur *Populus*, 1962, *De Sloover* 185 (LG); Denderwindeke, limite vers Sondbergen, vers Pollane (E3.47), sur *Fraxinus*, 1962, *De Sloover* 207 (LG); Vallée du Molenbeek, Outer (E3.27), sur *Populus*, 1962, *De Sloover* 61 (LG); Aspelare, Baverbeek (E3.26), sur *Populus*, 1962, *De Sloover* 217 (LG); Woubrechtegem (E3.26), sur *Populus*, 1962, *De Sloover* 219 (LG); Goeferdinge, Duitsebroek (E3.54), sur *Populus*, 1962, *De Sloover* 222 (LG); Zarlardingen, Koreelestraat (E3.54), sur *Populus*, 1962, *De Sloover* 223 (LG); Galmaarden, vallée de la Mark, limite vers Vione (E3.56), sur *Populus*, 1962, *De Sloover* 230 (LG); Sint-Lievens-Esse (E4.31), sur *Populus*, 1962, *De Sloover* 291 (LG); à l'W de Herzele, vers Hillegem (E3.15), sur *Populus*, 1962, *De Sloover* 299 (LG); Brussels, J. Graindorlaan (E4.25), sur *Tilia*, 2011, *Van den Broeck* 5079 (BR). – Mosan: Badon, comm. de Boussu-lez-Walcourt (H4.56), sur *Prunus*, 1964, *Lambinon* 64/1558 (LG); Barbençon, bord route Philippeville, à la sortie du village (H4.54), sur *Tilia*, 1964, *Lambinon* 64/1531 (LG); Soulme, près de l'église (J5.25), sur *Aesculus*, 1960, *Lambinon* 60/2499 (LG). – Ard.: Beausaint, au bord de la route La Roche-Champlon (J7.13), sur *Tilia*, 1964, *Lambinon* 64/811 (LG); ibid., muscicole sur le mur d'une vieille ferme, *Lambinon* 64/814 (LG); Grumelange (Martelange), dans le village (K7.56), sur *Fraxinus*, 1964, *Lambinon* 64/595 (LG); Wisembach (comm. Fauvillers), bord route à la sortie aval du village (K7.55), sur *Tilia*, 1964, *Lambinon* 64/1037 (LG); Butgenbach, bord de route dans le village (G8.46), sur *Acer* and *Ulmus*, 1969, *Lambinon* 69/18, 21 (LG); Stoumont, bord de la route vers Gleize, près du château de Froide Cour (G7.47), sur *Ulmus*, 1965, *Lambinon* 65/947 (LG); Amberloup, bord de la grand-route entre le village et Sprimont (J7.52), sur *Acer*, 1966, *Lambinon* 66/26 (LG); Pont, Bellevaux-Ligneuville (G8.53), sur *Acer*, 1960, *T. Müller* (LG); Racelles (comm. de Hodister), au bord de la route Marche - La Roche (J7.12), sur *Fagus*, 1964, *Lambinon* 64/351, 352 (LG); Smuid, devant l'église (J6.56), sur *Tilia*, 1967, *Lambinon* 67/53 (LG); Ortho, limite N de la commune, ferme du Vivier (J7.24), sur *Fraxinus*, 1962, *Lambinon* 62/1550 (LG).

Luxembourg, Ard.: N Asselborn, route de Troisvierges (J8.33), sur *Tilia*, 1967, *Lambinon* 67/500, 501 (LG); Oberwampach, dans le village (J7.58), sur *Tilia*, 1987, *Diederich* 8702 (h), au NE d'Erpeldange (Ettelbruck) (K8.45), sur *Pyrus*, 1980, *Diederich* 2369 (h). – Lorr.: Consdorf, bord de route à la sortie E du village (L9.21), sur *Aesculus*, 1966, *Lambinon* 66/1404 (LG); Gilsdorf, bord de pâturage, près de la Sûre (K8.46), sur *Populus*, 1966, *Lambinon* 66/1471 (LG); Boevange-sur-Attert, au bord de la route Rédange-Colmar

(L8.23), sur *Tilia*, 1967, *Lambinon* 67/555 (LG); au S de Nagem (L7.28), sur *Tilia*, 1979, *Diederich* 1901 (h); Reichlange (L8.22), sur *Tilia*, 1979, *Diederich* 2036 (h); à l'E d'Eppeldorf (K8.58), sur *Pyrus*, 1980, *Diederich* 2527, 2537 (h); Erpeldange (Ettelbruck) (K8.45), sur *Tilia*, 1980, *Diederich* 2404 (h); Cruchten, vers Schrondweiler (L8.15), sur *Fraxinus*, 1982, *Diederich* 6389 (h).

France, Ard.: Ardennes, Hargnies, sur la place du village (J5.55), sur *Tilia*, 1961, *Lambinon* 61/2013 (LG); Ardennes, entre We et Osnes, route Carignan-Clémency (M6.14), sur *Populus*, 1968, *Lambinon* 68/311 (LG).

Netherlands: Noord-Brabant, Breugel centre, on Quercus near farm, 1988, *van den Boom* 6912 (h).

This species is new to our checklist area.

Chaenothecopsis parasitaster (Bagl. & Carestia) D. Hawksw.

Belgium, Ard.: Malmedy, vallée de la Warche, réserve naturelle 'Abbé Charles Dubois' (G8.34), sommet d'un éboulis de gros blocs rocheux siliceux, dans un bois clair de *Betula*, sur *Cladonia polydactyla*, 2011, *Ertz* 16086 (BR).

A lichenicolous ascomycete confined to *Cladonia* thalli. New to the checklist area.

Cladonia parasitica (Hoffm.) Hoffm.

Luxembourg, Lorr.: Schengen, réserve forestière intégrale 'Grouf' (M9.51), on stump of *Quercus*, 2010, *Eichler* & *Cezanne* G53 (hb Diederich).

This is an interesting discovery of a very rare species. Indeed, in Luxembourg, it was known from a specimen in the Our valley (Ard.) collected in 1966 (*Lambinon* 66/1296, LG), and from the surroundings of Mersch (Lorr.) in 1892 (*Feltgen* 329, LUX).

Dacampia cyrtellae Brackel

= *Dacampia lecaniae* Brackel, non Kocourk. & K. Knudsen

Belgium, Ard.: NNE of Houffalize, along road N821 to Sommerain, near bridge over river Rau de Sommerain (J7.17), on *Sambucus*, on *Lecania cyrtella*, 2011, *van den Boom* 46061 (h).

Luxembourg, Lorr.: Schengen, réserve forestière intégrale 'Grouf' (M9.51), on *Sambucus*, on *L. cyrtella*, 2010, *Eichler* & *Cezanne* G118 (hb Diederich).

This lichenicolous pyrenomycete has recently been described from Germany (Brackel 2010) and seems to be confined to *Lecania cyrtella*. It is new to our checklist area.

Dactylospora parellaria (Nyl.) Arnold

France, Mosan: Ardennes, Chooz, rochers de Petit-Chooz sur la rive droite de la Meuse, face au pont (J5.35), affleurement de roches de l'Emsien supérieur (Grauwacke de Hierges), sur *Ochrolechia parella*, 1999, *Spier* 10387 (hb Diederich).

A lichenicolous ascomycete new to our checklist area.

Diplotomma epipolium auct., non (Ach.) Arnold var. ***parasiticum*** B. de Lesd.

France, Mar.: Somme, à l'ouest de St-Valéry-sur-Somme, au sud-ouest de la pointe du Hourdel, à l'ouest de La Mollière (H22.43), sur des galets près de la mer, sur *Lecanora* gr. *dispersa*, 2004, *Diederich* 15923 (h).

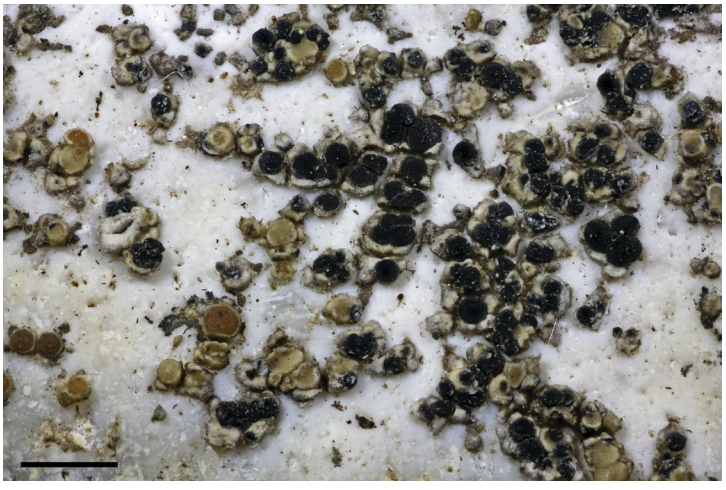

Fig. 3. *Diplotomma epipolium* var. *parasiticum*, lichenicolous on *Lecanora* gr. *dispersa* (*Diederich* 15923). Scale bar: 1 mm.

This taxon was described by Bouly de Lesdain (1910) for lichenicolous populations of *Diplotomma* with a very reduced to almost absent thallus, developing in the apothecia of *Lecanora galactina* (= *L. albescens*) and *L. umbrina* (=? *L. hagenii*) close to the sea in northern France, Dunkerque. As the type material is probably lost and our specimen the only known specimen that can be referred to this taxon, it is not possible at this moment to decide if these lichenicolous populations represent a distinct species, or if they belong to a usually lichenized species of *Diplotomma*, but with a reduced thallus and an unusual way of life. Consequently, we do not propose a new combination, but just want to draw the attention to the existence of a poorly understood lichenicolous taxon on the *Lecanora dispersa* group. Apothecia in our specimen are mainly 0.2-0.3 mm diam., and ascospores are brown, verrucose even when young, 6–8/ascus, 3-septate, with rarely an additional longitudinal septum, 12.5–16 × (5.5–)6.5–7.5 µm. This taxon is new to our checklist.

Echinodiscus lesdainii (Vouaux) Etayo & Diederich

Belgium, Ard.: NNE of Houffalize, along road N821 to Sommerain, near bridge over river Rau de Sommerain (J7.17), on *Sambucus*, on *Lecania cyrtella*, 2011, *van den Boom* 45810 (h).

This tiny lichenicolous ascomycete, apparently confined to *Lecania* species, has been described from northern France near Dunkerque, and has subsequently been reported from the British Isles, Sweden and the U.S.A. (Etayo & Diederich 2000, Kocourková et al. 2010). New to Belgium.

Epigloea urosperma Döbbeler

Luxembourg, Lorr.: N of Berdorf, Siweschlëff (K9.51), on *Placynthiella dasaea*, 2011, *Eichler* & *Cezanne* s.n. (hb Diederich).

Species of *Epigloea* are not clearly lichenized, but typically overgrow algal and cyanobacterial films over stones, mosses or detritus. The only lichenicolous species of the genus, *E. urosperma*, usually grows over *Placynthiella* thalli. The species was known from Austria, England, Germany, Poland, Sweden and Switzerland (Döbbeler 1994, Kukwa & Flakus 2009b), and is therefore new to our checklist area.

Graphis betulina (Pers.) Ach.

Belgium, Brab.: Leuwen ('Louvain') (E5.13), on *Fraxinus*, < 1900, *Coemans* (BR–LICH 5719–93). – Ard.: Frahan (K6.51), tronc d'arbre, 1869, *Delogne* (BR–LICH 9346–34).

Luxembourg: S. loc., < 1850, *Tinant* 267 (LUX). – Lorr.: Berdorf, de Zickzackschlëff vers la vallée de la Sûre (K9.51), sur *Fraxinus*, 1984, *Sérusiaux* 6587 (LG); Mullerthal, un peu en amont du pont de la route Berdorf-Grundhof (L9.11), sur *Tilia*, 1984, *Sérusiaux* 6532 (LG); SW of Dudelange, réserve forestière intégrale 'Haard' (M8.54), on *Acer pseudoplatanus*, 2012, *Eichler* & *Cezanne* 8686 (h, hb Diederich).

France, Pic.: Somme, 8 km à l'E de Rue, extrémité NW de la forêt domaniale de Crécy, juste au sud du château de Regnière-Ecluse (H22.27), sur *Fagus*, 2004, *Diederich* 15899 (h).

Neuwirth & Aptroot (2011) proposed a new taxonomy for *Graphis scripta* s. lat., recognizing four distinct taxa, *G. betulina*, *G. macrocarpa*, *G. pulverulenta* (Pers.) Ach. and *G. scripta* (L.) Ach. s. str., and reported all except *G. betulina* from our checklist area. A quick examination of the herbarium material from our study area, as well as recent field observations, showed that *G. pulverulenta* is by far the most common of these species, and that it is usually easily separated from the other three species. *Graphis scripta* s. str. is less common, and both *G. betulina* and *G. macrocarpa* are very rare. We examined several specimens that resemble *G. betulina*, but some of them do not perfectly fit the description given by Neuwirth & Aptroot (2011), suggesting that more studies are needed to better understand the circumscription of this taxon. Molecular phylogenetic studies including the four species will be most welcome, especially in relation with the problematic specimens mentioned above.

Only typical specimens of *Graphis betulina* are enumerated above. The species is new to our checklist area.

Graphis macrocarpa (Pers.) Röhl.

Luxembourg, Lorr.: SE of Beaufort, Haupeschbaach (K8.58), on *Acer*, 1992, *Diederich* 4789 (h).

France, Pic.: Somme, au N d'Abbeville, forêt domaniale de Crécy, lots 35, 36 et 37 (H21.41), on *Carpinus*, 2001, *Diederich* 15090a (h).

Neuwirth & Aptroot (2011) published *G. macrocarpa* from several localities in the Hautes-Fagnes in Belgium (incl. an epitype), and from a single locality near Beaufort in Luxembourg. We report the species here as new to France.

Graphium aphthosae Alstrup & D. Hawksw.

Luxembourg, Lorr.: à l'E de Tétange, Laangertegronn (M8.54), sur *Peltigera* et *Vezdaea retigera*, 1987, *Marson* (hb Diederich 8709b); au SW d'Esch-sur-Alzette, Lalléngerbierg, au N du lieudit 'Schamilchen' (M8.53), sur *P. rufescens*, 2012, *Diederich* 17415 (h); à l'W de Steinfort, carrière à l'W de la réserve naturelle (L8.51), sur sol sablonneux, sur squamules de *Cladonia pocillum* et sur algues terricoles, 2009, *Diederich* 16831 (h).

Netherlands: Noord-Brabant, Eindhoven, Kronehoef, along Boschdijk, churchyard St. Paulus (A7.51), terricolous, on *P. didactyla*, 2012, *van den Boom* 47364 (h).

This lichenicolous, synnematous hyphomycete was initially described from *Peltigera aphthosa* (Alstrup & Hawksworth 1990), but has eventually also been reported from other *Peltigera* species (e.g. Martínez & Hafellner 1998). We have collected morphologically indistinguishable specimens on *Peltigera* thalli, on goniocysts of *Vezdaea retigera* present in the same collection, on *Cladonia pocillum* thalli and on terricolous algae, suggesting a less specialized lichenicolous, and possibly occasionally algicolous species. New to the checklist area.

Lepraria toensbergiana Bayerová & Kukwa

France, Ard.: Ardennes, Fumay, bord de la route au S de la ville (K5.23), affleurement de schistes et de quartzites noirs du Revinien, enrichis en pyrite, 1999, *Sérusiaux* s.n. (LG).

This locality is famous for its well-developed ferrophilous lichen community, with *Acarospora sinopica*, *Lecanora epanora*, *L. handelii*, *Miriquidica atrofulva* (see under that species) and *Rhizocarpon oederi*. It is further interesting because of its unexpected assemblage of *Lepraria* species. Indeed, the following species are present: *L. borealis*, *L. caesioalba* (chemotype with fumarprotocetraric acid), *L. sylvicola* and *L. zeorinica* (Kukwa & Diederich 2007; Kukwa & Flakus 2009a). *Lepraria toensbergiana* should be added to this list, and is also reported as new to the checklist area and to France. Two other species occur in a similar habitat in a nearby locality: *L. alpina* (= *L. cacuminum*) and *L. bergensis* (Kukwa & Diederich 2007).

Lepraria toensbergiana has been reduced into synonymy with *L. jackii* by Barrufo et al. (2006) but this option is not adopted here. Indeed, the taxonomy of the genus is confused by the crude and superficial use of morphological and anatomical characters (Lendemer 2011) and the homoplasious nature of chemical characters (Nelsen & Gargas 2008, Tretiach et al. 2009). A detailed revision with multiple loci DNA sequences analysed with modern statistical methods within a phylogenetical context is needed before final decisions can be taken. Although closely related, *L. jackii* and *L. toensbergiana* have different haplotypes that seem to be worth species recognition (Fehrer et al. 2008).

Lichenochora obscuroides (Linds.) Triebel & Rambold

France, Mosan: Nord, N of Fourmies, NW of Glageon, bois de la Fagne de Sains, small lake 'Etang Fédéral' (J4.41), on *Populus*, on *Phaeophyscia orbicularis*, 2010, *van den Boom* 44882 (h).

Lichenicolous ascomycete, new to France.

Lichenochora weillii (Werner) Hafellner & R. Sant.

France, Brab.: Nord, WSW of Avesnes, Prisches, centre of village, park along church (J3.43), on *Liquidambar*, on *Physconia grisea*, 2010, *van den Boom* 44915 (h).

Lichenicolous ascomycete, new to France.

Lichenopeltella maculans (Zopf) Höhn.

France, Ard.: Ardennes, rocks overlooking the village ('poudingue de Fépin') (J5.54), on *Umbilicaria hirsuta*, 1999, *Aptroot* 45151 (hb Diederich).

A rare lichenicolous ascomycete, previously known from Germany (type locality), Norway and Sweden (Santesson 1993). The species is new to our checklist area and to France.

Lichenopeltella peltigericola (D. Hawksw.) R. Sant.

France, Lorr.: Meurthe-et-Moselle, Hussigny-Godbrange, quarry NE of village (M8.51), on *Peltigera*, 2011, *Diederich* 17164 (h).

Lichenicolous ascomycete, new to France.

Lobaria virens (With.) Laundon

Belgium, Ard.: Between Bouillon and Chiny [detailed data not provided to avoid undesirable overcollecting in this sensitive habitat], siliceous outcrops under forest cover, overgrowing mosses, 2008, *Fischer*, *Killmann* & *Sérusiaux* s.n. (LG).

Several localities of this species were known in the checklist area, mainly in the Semois valley in the Ardenne district (Sérusiaux et al. 2004, Diederich et al. 2012) with a single depauperate population discovered in 1998. Since a healthy population was recently discovered in the Lahn valley (Germany, Rheinland-Pfalz) near Koblenz (Fischer & Killmann 2008), three of us decided to explore thoroughly the Semois valley between Chiny and Bouillon in August 2008. Although several sites were apparently still suitable for the species, it was found in a single locality, with only seven but healthy thalli.

This locality is composed of several schistose outcrops by the river within a mixed *Fagus-Carpinus-Fraxinus* forest on a N-facing slope. The forest belongs to the 'Forêt riche en charme et à grande fétuque, à caractère hygrosciaphyte et acidocline' described in details by Tanghe (1970) in his excellent paper on (semi-)natural forests thriving on slopes in this section of the Semois River. Tree species present in the locality with *Lobaria virens* include *Carpinus betulus*, *Corylus avellana*, *Fagus sylvatica*, *Fraxinus excelsior*, with the following species present in the understorey and on the outcrops: *Actaea spicata*, *Asplenium trichomanes*, *Campanula rotundifolia*, *Chrysosplenium oppositifolium*, *Deschampsia flexuosa*, *Epilobium montanum*, *Festuca altissima*, *Geranium robertianum*, *Lathyrus montanus*, *Lunaria rediviva*, *Luzula sylvatica*, *Mercurialis perennis*, *Mycelis muralis*, *Oxalis acetosella*, *Polygonatum verticillatum*, *Polypodium vulgare*, *Polystichum aculeatum* and *Senecio fuchsii*. The following bryophytes were identified on rocks: *Fissidens taxifolius*, *Mnium hornum*, *Neckera crispa*, *Pellia endiviifolia*, *Plagiothecium asplenioides*, *Polytrichum formosum* and *Rhytidiadelphus loreus*. Lichen species accompanying *Lobaria virens* on rocks or overgrowing saxicolous mosses are: *Bacidia trachona*, *Caloplaca chrysodeta*, *C. xantholyta*, *Cladonia furcata*, *Dendrographa latebrarum*, *Dermatocarpon miniatum*, *Enterographa zonata*, *Lecanora subcarnea*, *Lepraria crassissima*, *Peltigera horizontalis*, *Porina chlorotica*, *P. lectissima*, *Psilolechia lucida*, *Reichlingia leopoldii* and *Sparria endlicheri*.

Lobaria virens was formerly known from many localities in the area of study, in the Mosan and Ard. districts. This locality is the only one left. A strict nature reserve status is very much needed to ensure its survival in this nice stand of forest.

Melaspilea bagliettoana Zahlbr.

Luxembourg, Lorr.: SW of Dudelange, réserve forestière intégrale 'Haard' (M8.54), on *Tilia*, 2012, *Cezanne* & *Eichler* 8642 (hb Diederich).

An extremely rare or poorly recorded, doubtfully lichenized ascomycete, reported here as new to the checklist area.

Miriquidica atrofulva (Sommerf.) A. J. Schwab & Rambold

France, Ard.: Ardennes, Fumay, bord de la route au S de la ville (K5.23), affleurement de schistes et de quartzites noirs du Revinien, enrichis en pyrite, 1999, *Aptroot* 45056 (h), *Diederich* 16096 (h) & *Sérusiaux* s.n. (LG) (TLC: stictic and cryptostictic acids).

An interesting addition to the ferrophilous lichen communities of the Ardenne district, best developed between Revin and Fumay (France) and near Vielsalm (Belgium). See further notes under *Lepraria toensbergiana*. New to the checklist area.

Mycocalicium subtile (Pers.) Szatala

Belgium, Mosan: Lautène, vallon forestier du ruisseau d'Omeri, Taille des Bourgeois (H5.53), tronc mort dressé écortiqué d'un *Pinus sylvestris*, 2011, *Ertz* 16089 (BR); Bois de Cerfontaine au sud de Cerfontaine (J4.26), sur conifère pourrissant, 2009, *Duvivier* (h). – Ard.: Herbeumont, étang des Epioux (L6.26), tronc mort dressé et écorcé de *P. sylvestris*, 2011, *Ertz* 16052, 16054, 16056 (BR); ibid., *Picea abies*, *Ertz* 16057 (BR); 10 km à l'W d'Houffalize, vallée de l'Ourthe au nord-ouest d'Engreux, Les Deux Ourthes (J7.25), 2010, *Ertz* 15318 (BR).

Fig. 4. *Miriquidica atrofulva* (*Diederich* 16096), a ferrophilous lichen species discovered in the French Ardennes. Scale bar: 2 mm.

Luxembourg, Lorr.: Schengen, réserve forestière intégrale 'Grouf' (M9.51), on *Picea* wood, 2010, *Eichler* & *Cezanne* G73, G74 (hb Diederich); SW of Dudelange, réserve forestière intégrale 'Haard' (M8.54), on *Picea* wood, 2012, *Cezanne* & *Eichler* 8632 (hb Diederich).

This non-lichenized ascomycete is new to the checklist area. It was already mentioned by Duvigneaud & Giltay (1938: 16) and Koltz (1897: 298), but these records are considered as dubious, as no corresponding specimens have been seen.

Opegrapha s. lat.

Several species of *Opegrapha* from our checklist area (*O. culmigena*, *O. prosodea*, *O. sorediifera*, *O. variiformis*) are here newly combined in the genera *Alyxoria* and *Zwackhia* that were reinstated by Ertz & Tehler (2011). In addition, several other species obviously belonging to these genera are combined too: *Opegrapha ochrocincta*, mainly distributed in the Mediterranean region, *O. viridipruinosa*, recently described from Great Britain, also reported from the Netherlands (Timmerman & Aptroot 2012) and thus to be expected in our checklist area, *O. circumducta*, described from Macaronesia, and two tropical species, *O. bonplandii* and *O. robusta*. *Opegrapha mougeotii* A. Massal. could also be combined in *Alyxoria*, but the status of this taxon with regards to *O. varia* requires further studies. *Opegrapha culmigena* Lib. is considered as an older name for *O. herbarum* (Sérusiaux et al. 1999), but the latter has a K– exciple (Pentecost & James 2009), whereas *O. culmigena* has a K+ slightly greyish to olivaceous exciple. Further studies are required before concluding if both taxa are distinct or not. The generic affinities of other *Opegrapha* species from our checklist will also have to be clarified in the future. For instance, *O. rufescens* is more close to the Roccellaceae s. str. (including genera such as *Lecanactis*, *Schismatomma*) (Ertz et al. 2009) with which it shares the ascospores lacking a gelatinous sheath.

Alyxoria Ach. in Gray, Nat. Arr. Br. Pl. 1: 504 (1821).

Type: *Alyxoria varia* (Pers.) Ertz & Tehler

Alyxoria culmigena (Lib.) Ertz comb. nov.

MycoBank: MB 801449

Basionym: *Opegrapha culmigena* Lib., Pl. Crypt. Arduenna, fasc. 1, n° 15 (1830)

Alyxoria ochrocincta (Werner) Ertz comb. nov.

MycoBank: MB 801450

Basionym: *Opegrapha ochrocincta* Werner, *Bull. Soc. Sci. Nat. Maroc* 19: 46 (1939)

Alyxoria variiformis (Anzi) Ertz comb. nov.

MycoBank: MB 801451

Basionym: *Opegrapha variiformis* Anzi [as '*variaeformis*'], *Comm. Soc. Crittog. Ital.* 1: 160 (1862)

Alyxoria viridipruinosa (B. J. Coppins & R. Yahr) Ertz comb. nov.

MycoBank: MB 801452

Basionym: *Opegrapha viridipruinosa* B. J. Coppins & R. Yahr, *Phytotaxa* 18: 90 (2011)

Zwackhia Körb., Syst. Lich. Germ.: 285 (1855).

Type: *Zwackhia involuta* (Wallr.) Körb. [= *Zwackhia viridis* (Ach.) Poetsch & Schied.)]

Zwackhia bonplandii (Fée) Ertz comb. nov.

MycoBank: MB 801453

Basionym: *Opegrapha bonplandii* Fée, Essai crypt. Écorc.: 25 (1824)

Zwackhia circumducta (Nyl.) Ertz comb. nov.

MycoBank: MB 801454

Basionym: *Opegrapha circumducta* Nyl., *Flora* 50: 374 (1867)

Zwackhia prosodea (Ach.) Ertz comb. nov.

MycoBank: MB 801455

Basionym: *Opegrapha prosodea* Ach., Method. Lich.: 22 (1803)

Zwackhia robusta (Vain.) Ertz comb. nov.

MycoBank: MB 801456

Basionym: *Opegrapha robusta* Vain., *Bot. Tidsskr.* 29: 137 (1909)

Zwackhia sorediifera (P. James) Ertz comb. nov.

MycoBank: MB 801457

Basionym: *Opegrapha sorediifera* P. James, *Lichenologist* 2: 86 (1962)

Peltigera leucophlebia (Nyl.) Gyeln.

Belgium, Mosan: Near Rochefort [detailed data not provided to avoid undesirable overcollecting in this sensitive locality], first seen in 2.2008 and confirmed in 6.2011, *Magain* & *Sérusiaux* s.n. (LG).

This species was known only from two recent Belgian localities when Goffinet et al. (1994) revised the whole genus in the area of study. For unknown reasons, both are gone now. It is thus much of a surprise to find a small but healthy population of that species in the Mosan district, where the species was extinct for several decades (latest locality found in 1965 by V. Demoulin, also near Rochefort, specimen in LG!). At the present locality, *Peltigera leucophlebia* is growing on mossy calcareous outcrops at the edge of a small forest belonging to the Tilio-Aceretum Tüxen 1955 (Erablaies-tillaies à scolopendre; see http://biodiversite.wallonie.be/fr/g1-a41a-erablaies-tillaies-a-scolopendre.html?IDC=951).

Phaeopyxis punctum (A. Massal.) Rambold, Triebel & Coppins

Luxembourg, Ard.: 1 km E of Esch-sur-Sûre, siliceous rocks above tunnel (K8.32), on *Cladonia* squamules, 2011, *Cezanne* & *Eichler* 8480 (h, hb Diederich). – Lorr.: N of Berdorf, Siweschlëff, on *Cladonia* squamules, 2011, *Cezanne* & *Eichler* 8508 (h); W of Bertrange, Mamer Rättchen (M8.23), on *Cladonia* squamules, 2012, *Diederich* 17303 (hb Diederich).

A lichenicolous ascomycete confined to squamules of *Cladonia* thalli. New to the checklist area.

Phaeosporobolus chlaroterae F. Berger & Brackel

Belgium, Ard.: Houffalize, 2 km SW of Engreux, Ourthe (J7.25), on *Alnus*, on *Lecanora chlarotera*, 2010, *Diederich* 17109 (h).

Luxembourg, Ard.: Lellingen, verson droit du Lellgerbaach, op Bärel (K8.13), on *Alnus*, on *L. chlarotera*, 2011, *Diederich* 17238 (h) & *Ertz* 17299 (BR); 200 m N of Lellingen (K8.13), on *Quercus*, on *L. pulicaris*, 2005, *Diederich* 16230 (h); Weiswampach, near lake (J8.24), on *Alnus*, on *L. argentata*, 2012, *Neuberg* s.n. (hb Diederich); N Weiswampach, vers Malscheid (J8.14), on *Fagus*, on *L. pulicaris*, 1986, *Diederich* 7326b (h); E Lentzweiler, route vers Clervaux (J8.43), on *Tilia*, on *L. pulicaris*, 1987, *Diederich* 8689b (h); Heinerscheid, Casselslay (J8.45), on *Carpinus*, on *Buellia griseovirens*, 1983, *Diederich* 3990 (h). – Lorr.: Pétange, Prënzebierg (M8.31), on branches of *Larix*, on *L. symmicta*, 2003, *Diederich* 15608 (h); Schengen, réserve forestière intégrale 'Grouf' (M9.51), on *Fagus*, on *L. symmicta*, 2010, *Cezanne* & *Eichler* G86 (hb Diederich); Steinsel, Gipsweiher (L8.55), on *Alnus*, on *L. pulicaris*, 1986, *Diederich* 8971 (h); Blaschette, Bëddelbësch (L8.46), on *Carpinus*, on *B. griseovirens*, 1983, *Diederich* 3943 (h); W Steinfort, berge de l'Eisch (L8.51), on *Quercus*, on *L. pulicaris*, 1984, *Diederich* 5174b (h); W of Oberanven, Grengewald, Itziger Steig (L8.57), on *Fagus*, on *L. pulicaris*, 1986, *Diederich* 7167b (h).

Germany: Rheinland-Pfalz, au S de Manderscheid, vallée de la Kleine Kyll, on *Carpinus*, *B. griseovirens*, 1984, *Diederich* 5517 (h).

Norway: Hordaland, W of Odda, Sundal, along path to Lake Bondhus, on *Salix*, on *L. pulicaris*, 2009, *Diederich* 16863 (h).

This lichenicolous hyphomycete has recently been described as a rather common species on thalli and apothecia of *Lecanora chlarotera*, with one additional find on *L. symmicta* (Berger & Brackel 2011). We

report it here as particularly common on *Lecanora pulicaris*, but also on *L. argentata*, *L. chlarotera* and *L. symmicta*, and unexpectedly on three specimens of *Buellia griseovirens*, a non-related host. The differences to the similar *Phaeosporobolus minutus* Etayo, described from southern Chile on *Pertusaria microcarpa* and *Coccotrema cucurbitula*, need to be studied further (Etayo & Sancho 2008). The species is new to the checklist area and to Norway.

Placynthium posterulum (Nyl.) Henssen

Belgium, Mosan: Commune d'Yvoir, au sud d'Yvoir, Champalle, réserve naturelle domaniale (H5.27), 2001, *Ertz* 422 p.p. (LG, sub *Anema tumidulum*); Vodelée, lieu-dit Les Roches, à 500 m à l'W du village (J5.14), affleurement rocheux naturel de calcaire compact en bord de route, exposé au sud et en grande partie éclairé, 2004, *Ertz* 7248 & *Duvivier* (BR).

France, Mosan: Ardennes, Givet, fort de Charlemont (J5.26), calcareous outcrops, 1999, *Diederich* 15671, 15682, 15685 (h) (det. M. Schultz); ibid., 2004, *Sérusiaux* s.n. (LG).

Placynthium stenophyllum (Tuck.) Fink var. *isidiatum* Henssen was mentioned in our area of study by Sérusiaux et al. (2004) from Belgium and France, but the localities have not yet been published. Czeika & Czeika (2007) explained that *P. stenophyllum* is a North American species that does not occur in Europe, and the name *P. posterulum* was subsequently accepted for the European taxon. *Placynthium posterulum* is consequently new to our checklist area, whilst *P. stenophyllum* has to be removed from that list.

The French locality hosts a most interesting community of cyanolichens, associated with sunny and exposed calcareous outcrops submitted to frequent flooding; this community includes the following species: *Anema decipiens*, *A. nummularium*, *A. suffruticosum*, *A. tumidulum*, *Collema cristatum*, *C. fuscovirens*, *C. tenax*, *Lempholemma botryosum*, *Leptogium gelatinosum*, *L. plicatile*, *L. turgidum*, *Metamelanea caesiella*, *Placynthium hungaricum*, *P. nigrum*, *P. posterulum*, *P. subradiatum*, *Psorotichia frustulosa*, *P. schaereri*, *Pterygiopsis affinis*, *Synalissa symphorea*, *Thyrea confusa* and *T. girardii*.

Pleospora physciae (Brackel) Hafellner & E. Zimm.

Belgium, Mosan: Ave-et-Auffe, tienne calcaire juste au N du centre du village, sur branches d'un arbuste (J6.33), sur *Physcia adscendens*, 2006, *Ertz* 10147 (BR); colline schisto-calcaire au centre du village d'Ave (J6.33), fourrés d'épineux, sur *Physcia*, 2010, *Ertz* 15246 (BR).

Although this species has only recently been described (Brackel 2010, as *Merismatium physciae* Brackel), it appears to be a rather common and widespread lichenicolous ascomycete, confined to *Physcia* species. It was known from Austria, Germany, Italy, Slovenia and Switzerland (Brackel 2010, Hafellner & Zimmermann 2012), and is herewith reported as new to our checklist area.

Polychidium muscicola (Sw.) S. Gray

Luxembourg, Ard.: Lellingen, 100 m NW of village (K8.13), terricolous in siliceous heathland, 1991, *Diederich* 12539 (h), *Mies* & *Schlechter*.

This extremely rare lichen species was discovered in 1966 near Lellingen by Lambinon (*Lambinon* 66/231, LG). We were able to rediscover a small population in 1991, but did not succeed finding the species during subsequent excursions in 2005 and 2011. The species is therefore critically endangered or extinct. In Belgium, the species was known from several localities in the Ardennes, but has not been observed after 1882. See also under *Trapeliopsis wallrothii*.

Pronectria septemseptata Etayo

Luxembourg, Lorr.: Strassen, Gaaschtgrond, rue des Carrières (M8.14), on *Acer pseudoplatanus*, on *Melanelixia glabratula*, 2011, *Diederich* 17152 (h).

This species was described by Etayo (1998) as an atypical member of *Pronectria* growing on *Melanelixia glabratula* with fusiform, (3–5–)7-septate ascospores, all other previously known species of the genus having 1-septate ascospores. Another remarkable character of that species is the orange, K+ violet perithecial wall. Our specimen grows on the same host lichen, is morphologically and chemically almost identical, also presents the K+ violet reaction of the perithecial wall (but papilla not reacting!), and has similarly sized ascospores, 41–58 × 4.5–5.5 µm (versus 41–63 × 4.5–6 µm in the type specimen).

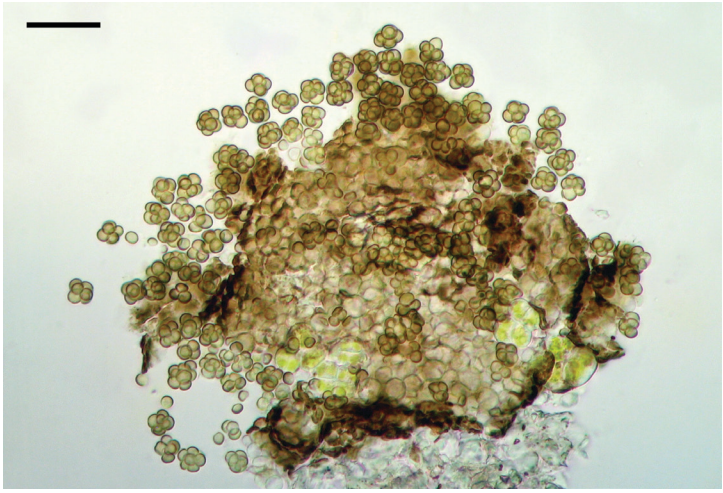

Fig. 5. *Phaeosporobolus chlaroterae*, a recently described lichenicolous fungus mainly developing over *Lecanora* thalli, showing multicellular conidia (*Neuberg* s.n.). Scale bar: 20 µm.

However, it differs by constantly 1-septate ascospores. As hamathecial filaments are present in our specimen, but were said to be inconspicuous, soon disappearing in the holotype, we conclude that our material is in an earlier stage of maturity than the material studied by Etayo (1998). Although we cannot exclude that two extremely similar species exist on the same host, just differing by the ascospore septation, we suggest that a single species is involved, in which ascospores are initially 1-septate, eventually becoming up to 7-septate. More collections are needed to confirm or disprove this hypothesis.

The species was known from the type locality in Spain (Navarra), southern Italy and Germany (Brackel 2011) and is here reported as new to the checklist area.

Sclerophora amabilis (Tibell) Tibell

Luxembourg, Lorr.: SW of Dudelange, réserve forestière intégrale 'Haard' (M8.54), on old dead *Fagus* trunk, 2012, *Cezanne* & *Eichler* 8642 (h), *Diederich* 17440 (h); ibid., on *Fraxinus*, 2012, *Cezanne* & *Eichler* 8628 (h).

This species was originally described from New Zealand, but has recently also been discovered in North America and Europe (Denmark, Norway and Sweden) (Tibell 1984). It is new to the checklist area and to Central Europe.

Spiloma auratum Sm.

Belgium, Mosan: My, rive droite de la vallée de l'Ourthe, à hauteur du Hé des Larrons (G7.52), paroi schisto-gréseuse en sous-bois, 'tronc' de *Hedera* adossé à la paroi, 160 m, 2001, *Sérusiaux* s. n. (LG).

Fig. 6. *Sclerophora amabilis*, a rarely collected lichen species, recently discovered in Luxembourg (Lorr.) on old *Fagus* and *Fraxinus* trunks (*Diederich* 17440). Scale bar: 200 µm.

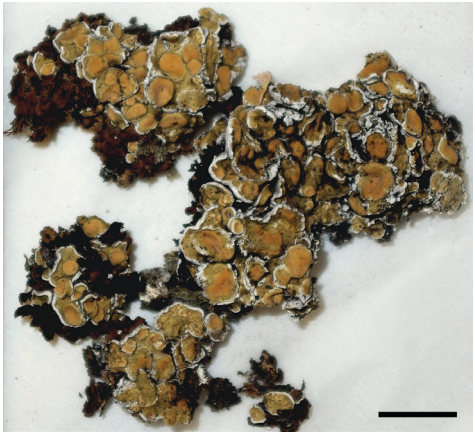

Fig. 7. *Squamarina gypsacea*, specimen from the only known left population in the checklist area in France (Ardennes) (*Sérusiaux* s.n.). Scale bar: 1 cm.

This is a poorly known, but probably widespread hyphomycetous species of lichens that may be lichenicolous when young, but eventually always develops its own lichenized thallus with a *Trentepohlia* photobiont. It was shortly discussed by Laundon (2005), but no modern description is available so far. In Belgium, it was detected on an old *Hedera* trunk appressed to a calcareous outcrop; the niche is very sheltered and protected from direct rain; accompanying species include *Sparria endlicheri* and *Chaenotheca stemonea*. In 2004, the *Hedera* trunk was gone, and no additional thalli of this rare species could be found in this locality. New to the study area.

Squamarina gypsacea (Sm.) Poelt

Belgium, Mosan: Dinant, vallée de la Leffe, rive droite, pelouse calcaire xérique face à l'ancien moulin de Capele (H5.38), sur le rocher (crevasses), 1982, *Sérusiaux* 2893 & *Malaise* (LG).

France, Mosan: Ardennes, Givet, escarpement calcaire sous le fort de Charlemont (J5.26), paroi calcaire ensoleillée soumise à de fréquents écoulements d'eau, 1967, *Lambinon* 67/368 (LG); ibid., 2004, *Sérusiaux* s.n. (LG).

A very rare species in the area of study, with a single and depauperate population left in Givet (see under *Placynthium posterulum*).

Stigmidium xanthoparmeliarum Hafellner

Belgium, Ard.: Bertogne, W of Bethomont, along path to lake c. 1.5 km NWW of Bethomont (J7.34), shadowed siliceous outcrops in forest, on *Xanthoparmelia conspersa*, 2010, *Diederich* 17142 (h).

Luxembourg, Ard.: 1 km E of Esch-sur-Sûre, near tunnel and road N15, wall along stairs and top of the hill above tunnel (K8.32), on *X. conspersa*, 2000, *Diederich* 14114 (h); Lellingen, verson droit du Lellgerbaach, op Bärel (K8.13), on siliceous rocks, on *X. conspersa*, 2011, *Diederich* 17252 (h).

A lichenicolous ascomycete, new to the checklist area.

Strangospora deplanata (Almq.) Clauzade & Cl. Roux

Luxembourg, Lorr.: SW of Dudelange, réserve forestière intégrale 'Haard' (M8.54), on *Carpinus*, 2012, *Cezanne* & *Eichler* 8639 (hb Diederich); ibid., on *Sambucus*, 2012, *Cezanne* & *Eichler* 8640 (h).

A very rare species, reported here as new to the checklist area.

Fig. 8. *Strangospora deplanata*, a very rare corticolous lichen species, collected in Luxembourg (Lorr.) (*Cezanne* & *Eichler* 8639). Scale bar: 0.5 mm.

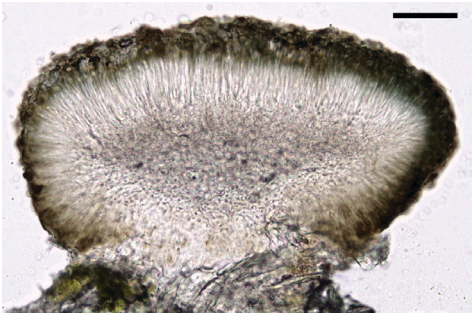

Fig. 9. *Strangospora deplanata*, section through apothecium in H_2O (*Cezanne* & *Eichler* 8639). Scale bar: 50 µm.

Trapeliopsis wallrothii (Flörke) Hertel & Gotth. Schneid.

Luxembourg, Ard.: Lellingen, 200 m N of village (K8.13), terricolous in siliceous heathland, 2005, *Diederich* 16228 (h) & *Ertz* 8981 (BR); ibid., 2011, *Eichler* & *Cezanne* 8506 (hb Diederich).

A terricolous lichen, collected in a lichen community with many *Cladonia* species (incl. *C. phyllophora*), *Leptogium palmatum* (the only known locality from our checklist area), *Peltigera extenuata*, *P. malacea*, *Polychidium muscicola* (see under that species), etc. New to the checklist area.

Tremella hypogymniae Diederich & M. S. Christ.

Belgium, Mosan: Couvin, l'Ermitage, bois de Couvin (K4.18), on *Quercus*, on *Hypogymnia physodes*, 2010, *Van den Broeck* 4842 (h).

A relatively common lichenicolous heterobasidiomycete, here reported as new to Belgium.

Tuckermannopsis sepincola (Ehrh.) Hale

Luxembourg, Lorr.: Marscherwald (L8.38), on branch of *Betula*, 2011, obs. *Eichler* & *Cezanne* (no specimen, but photograph).

This species was collected in the same locality in 1966 by Lambinon (specimens in LG and LUX) and was considered as extinct in Luxembourg (Lorr.). The discovery of a single thallus in 2011 proves that the species still exists in this locality, but that the population is seriously endangered. One thallus was also discovered on a wooden fence post in Luxembourg (Ard.) in 1981, but that population must be considered as extinct. In Belgium, the species is still rather abundant in disused quarries near Vielsalm (H8.31, 2011, *Diederich* 17262), present on at least one tree in a humid valley near Commanster (H8.43, 2004, *Ertz* 7202), always on branches of *Betula*. One thallus has also recently been observed in the Hautes-Fagnes (Grand Bongard, F8.55, 2011, *Van den Broeck* 5213 & *Ertz*).

Tylophoron hibernicum (D. Hawksw., Coppins & P. James) Ertz, Diederich, Bungartz & Tibell

= *Blarneya hibernica* D. Hawksw., Coppins & P. James

Belgium, Ard: Between Bouillon and Chiny [detailed data not provided to avoid undesirable overcollecting in this sensitive habitat], siliceous outcrops under forest cover, overgrowing mosses, 2008, *Fischer*, *Killmann* & *Sérusiaux* s.n. (LG).

Tylophoron hibernicum is easily recognized by its pale yellowish sporodochia growing on a felty, pale greyish to creamy thallus; it is typical of the most atlantic parts of the British Isles, Western Pyrenees and Macaronesia, where it was reported under the name *Blarneya hibernica*. Its discovery in the Semois valley illuminates the local climate, characterized by a high rainfall level (1300–1400 mm: http://sder.wallonie.be/ICEDD/CAP-atlasWallonie2006/pages/atlas.asp?txt=milRelief) and the most interesting biodiversity of many forests and outcrops in that area. More recently, Ertz et al. (2011) could demonstrate with DNA inferences that the species actually belongs to the genus *Tylophoron* and that it is most probably widespread in tropical regions.

Vahliella leucophaea (Vahl) P. M. Jørg.

= *Fuscopannaria leucophaea* (Vahl) P. M. Jørg.

Belgium, Ard.: Between Chiny and Bouillon [detailed data not provided to avoid undesirable overcollecting in this sensitive locality], schistose outcrop by the river, partly under trees cover, 2008, *Fischer*, *Killmann* & *Sérusiaux* s.n. (LG).

A single recent locality of this species was previously known in the area of study (Sérusiaux et al. 1999), on schistose rocks near a river (Ourthe valley). In this new locality, the species occurs in identical ecological conditions. Accompanying species include *Endocarpon pallidum* (a species that occurs in very different ecological conditions in the area of study: in Xerobromion communities and on schistose rocks at 'water level') and the rare *Leptogium magnussonii*.

Xanthoria candelaria (L.) Th. Fr.

= *Massjukiella candelaria* (L.) S. Y. Kondr. et al.

Belgium, Brab.: Gooik, Letterbeek (E4.41), lisière aulnaie, sur *Salix* et *Populus*, 1962, *J. De Sloover* 197 (LG); Hamme-Mille, le long du chemin de Tourinnes-la-Grosse (E5.44), sur *Populus*, 1964, *Lambinon* 64/205 (LG); Buisseret (comm. de Seneffe) (G4.14), on *Populus*, 1964, *Lambinon* 64/1359 (LG). – Mosan: Pondrôme, hameau d'Eclaye, mur calcaire du couvent (J6.31), 1960,

Lambinon 60/2345 (LG); Gomzé-Andoumont, Their des Forges, bord de la route Liège-Spa (G7.15), base de tronc de *Fraxinus*, 1963, *Lambinon* 63/1773 (LG); Abée-Scry, bord de la route allant de Havelange à la route Liège-Marche (G6.37), sur *Fraxinus*, 1962, *Lambinon* 62/216 (LG); Comblain-au-Pont, rive droite de l'Ourthe, base des affleurements entre les villages d'Oneu et de Gérômont (G7.33), sur *Fraxinus*, 1982, *Malaise* 82/149-197 (LG). – Ard.: Les Hayons, La Platinerie (L6.13), sur les vieux murs des ruines, surtout sur crépis, 1964, *Lambinon* 64/1315 (LG). – Lorr.: Romeldange (comm. de Tintange) (K7.46), sur le crépi du mur de la ferme, 1964, *Lambinon* 64/631 (LG); Mellier, Les Forges (L7.22), sur le crépis d'un mur d'habitation, 1964, *Lambinon* 64/1322 (LG); Romeldange (comm. de Tintange) (K7.46), sur le crépi du mur de la ferme, très abondant, 1964, *Lambinon* 64/631; Beho, bord de la route de Vielsalm (H8.43), sur *Fraxinus*, 1963, *Lambinon* 63/1616 (LG); Vielsalm, dans le village (H8.31), sur *Aesculus*, 1965, *Lambinon* 65/369 (LG).

Luxembourg, Ard.: Esch-sur-Sûre, crépi du mur de la chapelle dans le vieux cimetière (K8.32), sur du mortier d'un mur, 1967, *Lambinon* 67/514 (LG, LUX). – Lorr.: Between Ansembourg and Mersch, Marienthal (L8.44), on wall of chapel, 2005, *Diederich* 16204 (h); au N de Asselborn, route de Troisvierges (J8.33), sur un rocher en schistes, 1967, *Lambinon* 67/508 (LG); Meysembourg, à l'est du château, bord de la route (L8.26), sur un mur en grès, 1997, *Diederich* 12872 (h); Strassen, Xaviershaff, mur le long d'une route (M8.14), sur un mur vertical d'une vieille ferme, 1998, *Diederich* 13731 (h).

This species has been reported as rather common and widespread in our checklist area (Sérusiaux et al. 2003). However, for many years, we have recognized that the material is heterogeneous, including a mainly saxicolous taxon with an orange, coralloid thallus, and an exclusively corticolous taxon with yellow, often flattened lobes. The type specimen of *Xanthoria candelaria* belongs to the taxon with an orange, coralloid thallus (photo of an isoneotype published by Fedorenko et al. 2009), whilst the taxon with yellow, flattened lobes belongs to *X. ucrainica* (Kondratyuk 1997). A revision of the entire material from our checklist area yielded a relatively small number of specimens belonging to *X. candelaria* s. str. (see list of specimens above). This species mainly grows on old walls, exceptionally on natural, siliceous rock outcrops, and also inhabits the bark of isolated trees.

Xanthoria ucrainica S. Y. Kondr.

= *Massjukiella ucrainica* (S. Y. Kondr.) S. Y. Kondr. et al.

The great majority of the specimens from our checklist area previously called *Xanthoria candelaria* (Sérusiaux et al. 2003) belong to *X. ucrainica*. All specimens are corticolous. They are too numerous to be enumerated here. The species is new to the checklist area.

Xanthoria fallax (Hepp) Arnold

= *Oxneria fallax* (Hepp) S. Y. Kondr. & Kärnefelt

Kondratyuk et al. (2010) explained that the material usually included in *X. fallax* is heterogeneous and comprises two distinct species, *X. fallax* s. str. and the new *Oxneria huculica* S. Y. Kondr. The new species is distinguished from *X. fallax* s. str. by the presence of typical marginal, helmet-shaped soralia, differently shaped lobes, narrower ascospores, and a much thinner ascospore septum. *O. huculica* is mainly corticolous, although some saxicolous or lignicolous specimens are known, whilst *X. fallax* is mainly saxicolous.

We have re-examined the entire material of *X. fallax* s. str. from our checklist area and found that all specimens published by Sérusiaux et al. (2003) belong to *X. fallax* s. str., with the exception of an old corticolous specimen collected by Tinant (*Tinant* 15, LUX) that is in such a poor condition that it could not be identified with certainty. All other specimens are saxicolous and have been collected on siliceous natural outcrops or walls. On the other hand, we have examined typical, corticolous specimens of *O. huculica* from localities outside the area of our checklist.

Specimens examined of *O. huculica*: France: Pyrénées-Orientales, Targassonne, chaos de Targassonne, on *Populus*, 1985, *Diederich* 6564 (h). Spain: Catalonia, Girona, Llivia (E of Andorra), on *Salix*, 1985, *Diederich* 6582 (h). Switzerland: Valais, Sion, près du château de Tourbillon, on *Robinia*, 2008, *Diederich* 16761 (h).

Acknowledgements

We warmly thank Claude Roux for critically reading and commenting on the manuscript, and for interesting discussions on *Squamarina*. He

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