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Some lichens and lichenicolous fungi new to Italy and to Calabria

Abstract

Puntillo, D.: Some lichens and lichenicolous fungi new to Italy and to Calabria. — *Fl. Medit.* 21: 309-316. 2011. — ISSN: 1120-4052 printed, 2240-4538 online.

Fifty-nine species of lichens and lichenicolous fungi are reported from Calabria. Sixteen species are new to Italy and forty-four are new to Calabria. So, calabrian Lichen flora encrease to ca. 1.000 species.

Key words: Lichens, lichenicolous fungi, Mediterranean.

Introduction

Calabria is the southernmost tip of the Italian peninsula. The rugged morphology, the variety of substrata, the often markedly suboceanic climates, the abundance of old forests and cultivation of olive trees, together with the limited industrial development, are responsible for a rich lichen flora. The earlier lichenological exploration of Calabria was summarized by Nimis (1993). After the publication of the extensive monograph on the lichens of Calabria by Puntillo (1996), this number rose to 856. Further species were added by Puntillo (1998) and Puntillo & Puntillo (2002), and several records are contained in taxonomic treatments and other floristic works (e.g. Hertel & Rambold 1995; Ropin & Mayrhofer 1995; Sérusiaux 1998; Boom & Giralt 2002; Tretiach 1997; Giordani & al. 2002).

This present paper includes 60 species of lichens and lichenicolous fungi from the herbaria CLU and TSB, which proved to be new to Italy and the region.

Material and methods

Routine methods (light microscopy) were applied in the analysis of samples. The chemistry of selected specimens was studied by standard TLC methods as described by Culberson & Ammann (1979). Nomenclature follows Nimis & Martellos (2003) and authors are abbreviated according to Brummitt & Powell (1992). The samples are preserved in the herbaria of the Museum of Natural History of Calabria and Botanic Garden (CLU) and the Department of Biology of the University of Trieste (TSB).

Details on all taxa can be retrieved on-line from *ITALIC* (Nimis & Martellos 2002, <http://dbiodbs.univ.trieste.it>).

Enumeration of the taxa

Acarospora nodulosa var. **reagens** (Zahlbr.) Clauzade & Cl. Roux - Crotona. Santa Severina, 350 m, Puntillo 20/02/02, CLU 12526, on *Diploschistes*. A xeric subtropical lichen found on gypsum in exposed situations. **New to Calabria.**

Acarospora glaucocarpa (Ach.) Körb. - Cosenza. Pollino. Colle del Dragone, 1620 m, Nimis & al. 10/07/88, TSB nr. 11233, on calcareous rock in sun-exposed sites. **New to Calabria.**

Arthonia meridionalis Zahlbr. - Vibo Valentia. Briatico Marina, 10 m, Puntillo 15/04/98, CLU 12897, on calciferous sandstone. A mediterranean-atlantic species of limestone and dolomite in sheltered situations, often found with *Opegrapha durieui*; mainly Tyrrhenian in Italy. **New to Calabria.**

Arthonia mediella Nyl. - Cosenza. Sila Grande, Monte Curcio, Puntillo 11/01/87, CLU 3214, on bark of *Abies alba*. Cosenza. Sila Grande, Riserva del Tasso, 1580 m, Puntillo 18/07/90, CLU 12949, on *Abies alba*. A cool-temperate to boreal-montane, probably circumpolar, species; an early colonizer of acid bark, most often of conifers, found both in humid *Abies-Fagus* forests and in open *Larix* stands. **New to Calabria.**

Aspicilia farinosa (Flörke) Arnold - Cosenza, Monte Pollino, Colle del Dragone, 1620 m, on calcareous rocks. Nimis et al. 20/07/88. TSB 11231. On hard rocks, especially dolomite; a mainly southern species in Europe. **New to Calabria.**

Aspicilia viridescens (A.Massal.) Hue - Cosenza, Monte Pollino, Colle del Dragone, 1620 m, on calcareous rocks. Nimis et al. 20/07/88. TSB 11235. Most frequent in the south; this might be a well-distinguished species, differing from typical *A. contorta* and its ssp. *hoffmanniana*. **New to Calabria.**

Bacidina egenula (Nyl.) Vězda - Cosenza. Paola, Valle del Fiume San Francesco, 250 m, Puntillo 30/10/02, CLU 12944, on soil and sandstone. A mild-temperate to humid subtropical species, found especially on pebbles of moist ground in areas with siliceous substrata; certainly overlooked and widespread Tyrrhenian Italy. **New to Calabria.**

Biatoropsis usnearum Räsänen – Cosenza. Sila Grande. Serra Ripollata, 1620 m, Puntillo 17/08/1988. CLU 5397. Det. P. Diederich. A lichenicolous fungus, parasitic on *Usnea* sp. **New to Italy.**

Bispora christiansenii D.Hawksw. - Reggio Calabria. Aspromonte, Pietra Impiccata, 1750 m, Nimis et al. 12/07/88. TSB 10977. Det. D. Triebel. A lichenicolous fungus, parasitic on *Pleopsidium chlorophanum*. **New to Italy.**

Buellia caloplacivora Llimona & Egea - Crotone, tra Capo Colonna e Capo Rizzuto, 50 m, Van den Boom 06/08/86. TSB 13793, on *Caloplaca*. Closely related to *B. sequax*, but perhaps a distinct species. **New to Italy.**

Caloplaca agardhiana (A.Massal.) Cl. Roux - Cosenza. Monte Pollino, Colle del Dragone, 1620 m, on calcareous rocks. Nimis & al. 20/07/88. TSB 11236, on hard limestones and dolomite. The *C. agardhiana*-*C. alociza* complex is still not clear to us; here, we follow the circumscription proposed by Clauzade & Roux (1985). **New to Calabria.**

Caloplaca chalybaea (Fr.) Müll.Arg. - Cosenza. Monte Pollino, Colle del Dragone, 1620 m, on calcareous rocks. Nimis & al. 20/07/88. TSB 11235. A mild-temperate species known from Europe and adjoining Africa and Asia, found on hard calciferous rocks (mostly on compact limestone) and dolomite, often, but not exclusively, on steeply inclined faces; especially common in C-S Italy, above the Mediterranean belt. **New to Calabria.**

Caloplaca cirrochroa (Ach.) Th.Fr. - Cosenza. Valle del Caronte, Pantanolungo, 550 m, on limestone, Nimis et al. 13/07/88. TSB 16657. A mainly temperate, probably holarctic species, found on hard limestone and dolomite in sheltered situations, often on faces seldom wetted by rain. **New to Calabria.**

Caloplaca grimmiae (Nyl.) H.Olivier - Reggio Calabria. Aspromonte. Delianova, loc. Pian di Carmelia, 1020 m, on *Candelariella vitellina*. Nimis & Castello 11/04/89. TSB 12155. An holarctic, temperate to boreal-montane lichen, the ecology and distribution of which are narrower than those of its host; it occurs throughout the country, and even in the Mediterranean belt, sometimes on walls, but, contrary to the host, is absent from heavily synanthropic habitats. **New to Calabria.**

Caloplaca inconnexa var. *nesodes* Poelt & Nimis - Reggio Calabria. Aspromonte. Delianova, Pian di Carmelia, 1020 m, on *Aspicilia*. Nimis & Castello 11/04/89. TSB 12157. A mainly Mediterranean lichen, found on base-rich siliceous rocks wetted by rain. **New to Calabria.**

Carbonea oxysporina J.Steiner - Reggio Calabria. Aspromonte. Pietra Impiccata, 1680 m, Puntillo 20/06/89, CLU 1680, on *Lecanora* sp. - A lichenicolous fungus. **New to Italy.**

Candelariella kuusamoensis Räsänen - Reggio di Calabria, Aspromonte, Pietra Impiccata, 1680 m, on bark of Fagus, Puntillo 20/06/89, det. W. Obermayer. **New to Calabria.**

Catillaria mediterranea Hafellner - Cosenza. Pollino, Colle Marcione, 1220 m, Puntillo 02/11/98. CLU 12775, on *Anaptychia ciliaris*. For further details see Tretiach & Hafellner (1998). **New to Calabria.**

Dactylospora parasitica (Flörke) Zopf - Reggio Calabria. Seminara, 200 m, on *Pertusaria amara*, Bartoli 29/09/89. TSB 13714. Det. D. Triebel. A widespread lichenicolous fungus. **New to Italy.**

Diploschistes euganeus (A.Massal.) J.Steiner - Cosenza. Paola, Vallone San Francesco, 450 m, Crea 30/10/02. Crea & Puntillo, CLU 12858. - A mild-temperate lichen, found on basic siliceous rocks, more rarely on brick and roofing tiles, in warm-humid areas, sometimes starting its life-cycle on *Ochrolechia parella*; mostly Tyrrhenian in Italy. **New to Calabria.**

Enterographa elaborata (Leight.) Coppins & P. James - Cosenza. Laino Borgo, Valle del Torrente Incugnatore, 630 m, Puntillo 23/06/99. CLU 12089, on *Corylus avellana*, with *Enterographa crassa* and *Porina leptalea*. A mild-temperate to humid subtropical, mainly western species in Europe, known from two stations only in Italy, on smooth bark in humid-warm woodlands. **New to Calabria.**

Gyalidea fritzei (Stein.) Vězda - Reggio Calabria, Aspromonte, Pietra Impiccata, m 1750, Nimis & Tretiach 14/07/1988. TSB 21689, on siliceous rock. **New to Italy.**

Gyalecta liguriensis (Vězda) Vězda - Cosenza. Paola, Vallone San Francesco, Puntillo 19/01/03, on *Quercus pubescens*. CLU 12988. On bark of ancient trees in humid, sheltered situations; mostly Tyrrhenian and mostly coastal. **New to Calabria.**

Heppia lutosa Cosenza, Luzzi, Gidora, Puntillo 06/12/2008. CLU 13411, on acid soil, in sun-exposed sites, but avoiding extreme solar irradiation. **New to Calabria.**

Lecania fuscella (Schaer.) A. Massal. - Reggio Calabria. Aspromonte, Delianova, Pian di Carmelia, 1020 m, Nimis & Castello 11/04/89. TSB 12150. A mild-temperate species, found on base-rich bark of isolated trees, especially *Populus*, *Juglans* and *Ulmus*; more frequent in the past, presently most common in S Italy. **New to Calabria.**

Lecanora flotowiana Spreng. - Cosenza. Monte Pollino, Colle del Dragone, 1620 m, on calcareous rocks. Nimis et al. 20/07/88. TSB 11235. Mostly named *Lecanora dispersa* by earlier authors, this lichen is common throughout Italy, especially in upland areas, being absent from large settlements and very rare on man-made substrata. **New to Calabria.**

Lecanora hypopta (Ach.) Vain. - Reggio Calabria. Bosco di Rosarno, 30 m, on *Olea*, Nimis 04/05/89. TSB 12896. A poorly collected species of hard lignum, especially on decorticated stumps. **New to southern Italy.**

Lecanora obscurella (Sommerf.) Hedl. - Cosenza. Sila Grande, Valle Torrente Cavaliere, 1695 m, Puntillo 07/08/87, on bark of *Pinus laricio*, CLU 3972. Very closely related to *L. cadubriae*, this taxon needs further study. Formally **new to Calabria.**

Lecidea turgidula Fr. - Crotone, Alta Valle del Tacina, 1500 m, Nimis & al. 11/07/88. TSB 10576, on bark of *Pinus laricio*. **New to Calabria.**

Lecidella stigmathea (Ach.) Hertel & Leuckert - Cosenza. Monte Pollino, Serra del Prete, 1900 m, Puntillo 08/10/86. CLU 2623, on calcareous rocks. A widespread holarctic

species, found on base-rich and calciferous siliceous rocks; a variable and ecologically wide-ranging lichen, often found in synanthropic habitats, especially on sandstone walls, and sometimes starting the life-cycle on other crustose lichens. **New to Calabria.**

Lichenocomium lecanorae (Jaap) D. Hawksw. - Calabria, Prov. Reggio: Aspromonte, Pietra Impiccata, 1750 m, on *Pleopsidium chlorophanum* (apoth.), Nimis et al. 12/07/88, det. D. Triebel. A widespread lichenicolous fungus. **New to Italy.**

Lichenodiplis lecanorae (Vouaux) Dyko & D. Hawksw. - Crotone, Foce del Neto, Puntillo 04/10/88, on *Caloplaca*, CLU 5620. Det. P. Diederich. A lichenicolous fungus. **New to Italy.**

Lichenostigma elongatum Nav.-Ros. & Hafellner - Vibo Valentia. Torre di Joppolo, 10 m, Puntillo 16/07/94, on *Rinodina* sp., CLU 13230. Det. P. Diederich. A non-lichenized parasite, usually found on *Lobothallia*. **New to Italy.**

Merismatium nigritlellum (Nyl.) Vouax - Cosenza. Dipignano, 621 m, Puntillo 05/04/85. TSB 6617, on *Degelia plumbea*. Det. D. Triebel. A lichenicolous fungus. **New to Italy.**

Minutoexcipula mariana V. Atienza - Vibo Valentia. Soriano Calabro, 260 m, Puntillo 16/05/99, CLU 12880 on *Pertusaria* sp. Det. P. Diederich. A lichenicolous fungus. **New to Italy.**

Opegrapha ochrocincta Werner - Cosenza. Portapiana, 300 m, Puntillo 07/02/85. TSB 5447, on bark of *Quercus ilex*. On shrubs and twigs of young trees in Mediterranean maquis; most common in Tyrrhenian Italy. **New to Calabria.**

Ochrolechia microstictoides Räsänen - Cosenza. Rossano, Finita, 1000 m, Nimis et al. 15/07/88. TSB 11005, on bark of *Castanea sativa*. A cool-temperate to boreal-montane lichen, mostly found on conifers in open, humid forests. **New to Calabria.**

Pachyphiale fagicola (Hepp) Zwackh - Cosenza. Paola, Vallone San Francesco, Puntillo 19/01/03, on bark of *Quercus virgiliana*. CLU 13019. Often confused with *P. carneola*, but certainly rare throughout the country; *optimum* in open deciduous forests or in humid areas; also on isolated, old trees. **New to Calabria.**

Pertusaria leprarioides Erichsen - Cosenza, Rossano, Finita, 1000 m, Nimis et al. 15/07/88. TSB 11005, on bark of *Castanea sativa*. **New to Calabria.**

Phaeophyscia endophoenicea (Harm.) Moberg - Reggio Calabria. Terra di Reggio. Bersan 12/06/93. TSB 20362. A mild-temperate lichen, found on epiphytic bryophytes and bark in open, humid woodlands; specimens without the red pigment in the medulla, which are not rare, can be easily confused with other species. **New to Calabria.**

Phacopsis lethariellae Hafellner & Rambold - Cosenza. San Donato di Ninea, Cozzo del Mangano, 1650 m, Puntillo 08/10/95, CLU 8160 on *Lethariella intricata*. A lichenicolous fungus. **New to Italy.**

Phaeographis inusta (Ach.) Müll. Arg. - Vibo Valentia. Ariola, Fosso Zampilli, 670 m, Puntillo, CLU 12138, on *Corylus avellana*, with *Graphis scripta*. A mild-temperate to humid subtropical, western species in Europe. **New to Italy.**

Phylliscum demangeonii (Moug. & Mont.) Nyl. - Reggio Calabria. Aspromonte, Cascate Maesano, 1120 m, Puntillo 22/06/89. CLU 8535, on acid siliceous rocks near a waterfall. A cool-temperate to boreal-montane, probably circumpolar lichen, found on steeply inclined seepage tracks of siliceous rocks; hitherto known from the Alps in Italy. **New to Calabria.**

Physconia subpulverulenta (Szatala) Poelt - Reggio Calabria. Stilo. M. Mammicomito, 700 m, Bersan 10/06/93. TSB 21593. A mainly Mediterranean-atlantic lichen of isolated trees. The taxonomic significance of yellow medullary pigments in *Physconia* still awaits a satisfactory evaluation; this taxon is rare in Italy, and restricted to warm-humid Tyrrhenian areas. **New to Calabria.**

Plectocarpon lichenum (Sommerf.) D. Hawksw. - Cosenza. Sila Grande, Fossiata, 1280 m, Puntillo 01/11/85, CLU 1112, on *Lobaria pulmonaria*. Colle del Dragone, 3/6/1985, CLU 628. A lichenicolous fungus. **New to Calabria.**

Polyblastia albida Arnold - Cosenza. Paola, Vallone San Francesco, 279 m, Crea & Puntillo, 27/07/97, on calciferous sandstone. CLU 12763. A species of hard calciferous rocks, including dolomite, also found within forests; frequent in the Alps, much rarer in the Apennines, where it is confined to high altitudes. **New to Calabria.**

Psilolechia clavulifera (Nyl.) Coppins - Reggio Calabria. Aspromonte, Molochio, Vallone Mundu, 600 m, Puntillo 01/11/99. CLU 12998. Det. B.J.Coppins. On roots, stones and consolidated soil of dry underhangs on banks, root systems of fallen trees, and acid siliceous rocks in a humid valley. **New to Italy.**

Psilolechia lucida (Ach.) M. Choisy - Cosenza. Parenti. Puntillo 10/09/2009. CLU 14491, vertical rock protected from rain. **New to Calabria.**

Ramalina fenestrata Motyka - Reggio Calabria, Mammicomito, 700 m, Bersan 10/06/93. TSB 21568, on bark of *Castanea sativa*. **New to Calabria.**

Ramalina reagens (De Lesd.) Culb. - Cosenza, Serra del Prete, 1400 m, Nimis 01/06/79. TSB 1175, on bark of *Fagus sylvatica*. **New to Calabria.**

Rhizocarpon lavatum (Fr.) Hazsl. - Cosenza, Sila Grande, Macchia Sacra, Puntillo 04/10/09. CLU 13381. On perennially humid siliceous rocks, e.g. in mountain rivulets. **New to Calabria.**

Rinodina capensis Hampe - Reggio Calabria, Aspromonte, 1050 m, *sine data et collector*, TSB 12138. Pioneer species, mostly on smooth bark of *Fagus sylvatica*. **New to Calabria.**

Rinodinella controversa (A. Massal.) H.Mayrhofer & Poelt - Cosenza, Monte Pollino, Colle del Dragone, 1620 m, on calcareous rocks. Nimis et al. 20/07/88. TSB 11234. A mainly southern species in Europe, with optimum in the temperate belts, on limestone and dolomite. **New to Calabria.**

Scoliciosporum pruinosum (P. James) Vězda - Reggio Calabria. Molochio, 650 m, Nimis, *sine data*, TSB 12156. A mild-temperate species, found on bark of *Olea*. **New to Calabria.**

Sphaerellothecium cladoniicola E. S. Hansen & Alstrup - Cosenza. San Donato di Ninea, Cozzo del Pellegrino, 1850 m, Puntillo 22/08/93. CLU 15651, on *Cladonia*. Det. P. Diederich. A recently described lichenicolous fungus. **New to Italy.**

Squamarina concrescens (Müll. Arg.) Poelt - Reggio Calabria. Stilo, Mammicomito, 1000 m, Bersan 10/06/93. TSB 21580. An often misunderstood species, with a southern distribution centred in dry areas; found on base-rich clay soil in clearings of grasslands and garrigues; mostly Tyrrhenian, but also found in the dry Alpine valleys. **New to Calabria.**

Staurothele geoica Zschacke - Cosenza. Montalto Uffugo. Bosco di Mavigliano, 220 m, Puntillo 02/02/01. CLU 13419. On soil amongst bryophytes and on plant debris. **New to Calabria.**

Usnea rubicunda Stirt. - Vibo Valentia. Soriano Calabro, 230 m, Puntillo 16/05/99. CLU 12180, on *Olea europaea*. A mild-temperate, chiefly mediterranean-atlantic species, found on ancient specimens of *Quercus cerris*, *Q. suber*, and other acid-barked broadleaved trees in open, but semi-natural, warm-humid forests; locally abundant only in parts of Tyrrhenian Italy. **New to Calabria.**

Verrucaria aspiciliicola R. Sant. - Cosenza, Monte Pollino, Colle del Dragone, 1620 m, on calcareous rocks, with *Aspicilia farinosa*. Nimis et al. 20/07/88. TSB 11231. A very common, formerly misunderstood, species, but certainly widespread throughout Italy. **New to Calabria.**

Ve zdaea aestivalis (Ohlert) Tscherm.-Woess & Poelt - Cosenza. Castiglione Casentino, Valle del fiume Arente, 300 m, Puntillo 04708/02. CLU 9109, on *Radula complanata*. A mild-temperate to mediterranean-atlantic, ephemeral species, found on epiphytic bryophytes. **New to Italy.**

Conclusions

The list includes 60 species of lichens and lichenicolous fungi, of which 44 are new to Calabria and 16 are new to Italy; these increase the number of species recorded from Calabria to c. 1000, about half of the lichens known to Italy. Thus, Calabria is one of the best lichenologically known regions of the Mediterranean basin.

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