Italian Botanist 12: 49–62 (2021)
doi: 10.3897/italianbotanist.12.76124
https://italianbotanist.pensoft.net

RESEARCH ARTICLE

Italian Botanist
Published by Società Botanica Italiana

Notulae to the Italian flora of algae, bryophytes, fungi and lichens: 12

Sonia Ravera[1], Marta Puglisi[2], Alfredo Vizzini[3], Silvia Assini[4], Matteo Barcella[4], Gabriele Berta[5], Fabrizio Boccardo[6], Ilaria Bonini[7], Francesca Bottegoni[8], Romina Ciotti[9], Marco Clericuzio[10], Annalena Cogoni[11], Davide Dagnino[5], Antonio De Agostini[11], Antonio B. De Giuseppe[12], Francesco Dovana[13], Gabriele Gheza[8], Deborah Isocrono[14], Giovanni Maiorca[15], Mauro Mariotti[5], Juri Nascimbene[8], Pier Luigi Nimis[16], Silvia Ongaro[14], Giulio Pandeli[7], Nicodemo G. Passalacqua[12], Giovanna Pezzi[8], Silvia Poponessi[11], Filippo Prosser[17], Domenico Puntillo[12], Michele Puntillo[12], Giovanni Sicoli[18], Claudia Turcato[19], Chiara Vallese[8]

1 *Dipartimento di Scienze e Tecnologie Biologiche Chimiche e Farmaceutiche (STEBICEF), Università di Palermo, Via Archirafi 38, 90123 Palermo, Italy* **2** *Dipartimento di Scienze Biologiche, Geologiche e Ambientali, Sezione di Biologia vegetale, Università di Catania, Via A. Longo 19, 95125 Catania, Italy* **3** *Institute for Sustainable Plant Protection (IPSP) – CNR, Viale P.A. Mattioli 25, 10125 Torino, Italy* **4** *Dipartimento di Scienze della Terra e dell'Ambiente, Università di Pavia, Via S. Epifanio 14, 27100 Pavia, Italy* **5** *Dipartimento di Scienze della Terra, Ambiente e Vita, Università di Genova, Corso Europa 26, 16132 Genova, Italy* **6** *Via Filippo Bettini 14/11, 16162 Genova, Italy* **7** *Dipartimento di Scienze della Vita, Università di Siena, Via P. A. Mattioli 4, 53100 Siena, Italy* **8** *BIOME Lab, Dipartimento di Scienze Biologiche, Geologiche e Ambientali, Alma Mater Studiorum, Università di Bologna, Via Irnerio 42, 40126 Bologna, Italy* **9** *Via Termine 1, 05039 Stroncone (Terni), Italy* **10** *Dipartimento di Scienze e Innovazione Tecnologica, Università del Piemonte Orientale, Via T. Michel 11, 15121 Alessandria, Italy* **11** *Dipartimento di Scienze della Vita e dell'Ambiente, Università di Cagliari, Viale S. Ignazio, 09123 Cagliari, Italy* **12** *Museo di Storia Naturale della Calabria ed Orto Botanico, Università della Calabria, 87036 Arcavàcata di Rende (Cosenza), Italy* **13** *Via Quargnento 17, 15029 Solero (Alessandria) Italy* **14** *Dipartimento di Scienze Agrarie, Forestali e Alimentari, Università degli Studi di Torino, Largo Paolo Braccini, 10095 Grugliasco (Torino) Italy* **15** *Agency for the Agricultural Development of the Calabria Region (ARSAC), Viale Trieste 95, 87100 Cosenza, Italy* **16** *Dipartimento di Scienze della Vita, Università di Trieste, Via L. Giorgieri 10, 34127 Trieste, Italy* **17** *Fondazione Museo Civico di Rovereto, Largo S. Caterina 41, 38068 Rovereto (Trento), Italy* **18** *Dipartimento di Biologia, Ecologia e Scienze della Terra, Università della Calabria, 87036, Arcavàcata di Rende (Cosenza), Italy* **19** *Centro Studi Bionaturalistici – Ce.S.Bi.N. s.r.l., via San Vincenzo 2, 16121 Genova, Italy*

Corresponding author: Sonia Ravera (sonia.ravera@unipa.it)

Academic editor: Lorenzo Peruzzi | Received 4 October 2021 | Accepted 17 October 2021 | Published 15 November 2021

Citation: Ravera S, Puglisi M, Vizzini A, Assini S, Barcella M, Berta G, Boccardo F, Bonini I, Bottegoni F, Ciotti R, Clericuzio M, Cogoni A, Dagnino D, De Agostini A, De Giuseppe AB, Dovana F, Gheza G, Isocrono D, Maiorca G, Mariotti M, Nascimbene J, Nimis PL, Ongaro S, Pandeli G, Passalacqua NG, Pezzi G, Poponessi S, Prosser F, Puntillo D, Puntillo M, Sicoli G, Turcato C, Vallese C (2021) Notulae to the Italian flora of algae, bryophytes, fungi and lichens: 12. Italian Botanist 12: 49–62. https://doi.org/10.3897/italianbotanist.12.76124

Abstract

In this contribution, new data concerning bryophytes, fungi and lichens of the Italian flora are presented. It includes new records, confirmations or exclusions for the bryophyte genera *Acaulon*, *Campylopus*, *Entosthodon*, *Homomallium*, *Pseudohygrohypnum*, and *Thuidium*, the fungal genera *Entoloma*, *Cortinarius*, *Mycenella*, *Oxyporus*, and *Psathyrella* and the lichen genera *Anaptychia*, *Athallia*, *Baeomyces*, *Baglietoa*, *Calicium*, *Nephroma*, *Pectenia*, *Phaeophyscia*, *Polyblastia*, *Protoparmeliopsis*, *Pyrenula*, *Ramalina*, and *Sanguineodiscus*.

Keywords

Ascomycota, Basidiomycota, Bryidae

How to contribute

The text of the records should be submitted electronically to: Cecilia Totti (c.totti@univpm.it) for algae, Marta Puglisi (mpuglisi@unict.it) for bryophytes, Alfredo Vizzini (alfredo.vizzini@unito.it) for fungi, Sonia Ravera (sonia.ravera@unipa.it) for lichens. Each text should be within 1,000 characters (spaces included).

Floristic records

Bryophytes

Acaulon fontiquerianum Casas & Sérgio (Pottiaceae)

+ **TOS**: Parco Archeologico di Baratti e Populonia (Livorno), on sandy paths, roadsides, vineyards and arable fields near the coast, generally with a high alternation between dry and moist conditions during winter months (UTM WGS84: 32T 623678.4761494), 5 m, 20 January 2021, leg. *G. Pandeli* det. *G. Pandeli, I. Bonini* (SIENA). – Species new for the flora of Toscana.

Acaulon fontiquerianum is a gregarious and ephemeral submediteranean-suboceanic species, included as Endangered in the Red List of the Italian Flora (Rossi et al. 2013). It is quite common in the Mediterranean, and in Italy is reported only for Sicilia (Lo Giudice 1995) and Sardegna (Cogoni and Scrugli 2000), where it is considered rare. In Toscana, at the coastal site of Baratti, *A. fontiquerianum* oc-

cupies a large area of the surrounding arable fields, vineyards and paths near the pinewood, frequently accompanied by *Entosthodon fascicularis* (Hedw.) Müll.Hal., and *Riccia sorocarpa* Bisch.

G. Pandeli, I. Bonini

***Campylopus introflexus* (Hedw.) Brid. (Ditricaceae)**

+ **CAL**: Torre di Mezzapraia, Curinga (Catanzaro), on sandy dunes (UTM WGS 84: 33S 605854.4297732), 5 m, 6 January 2021, *D. Puntillo, M. Puntillo* (CLU No. 4330). – Invasive alien species new for the flora of Calabria.

Campylopus introflexus is native to the southern hemisphere, where it is known from South America, southern Africa, and southern Australasia (Hassal and Söderström 2005). In Europe, it was first discovered in the southern part of Great Britain in 1941 (Richards 1963) and in Italy in 1956 in Campania (Reimers 1956). The most recent Italian report is from Sicilia (Ellis et al. 2017). The species is recognizable for the lanceolate leaves showing a hyaline hair tip, which is 90° reflexed in dry condition (Frahm and Stech 2006), and for the capsule carried by a strongly down-curved seta.

D. Puntillo, M. Puntillo

***Entosthodon hungaricus* (Boros) Loeske (Funariaceae)**

+ **SAR**: Giara Park, Pauli Maiori, Genoni (Sud Sardegna), on soil on the borders of a temporary pond (UTM WGS84 32S 492737.4403123), 500 m, 8 March 2002, *S. Poponessi, A. Cogoni* (CAG SA2.2.2a); Giara Park, Pauli Maiori, Tuili (Sud Sardegna), on soil on the borders of a temporary pond (UTM WGS84 32S 496512.4399313), 500 m, 22 May 2002, *S. Poponessi, A. Cogoni* (CAG SA2.2.2.b). – Species new for the flora of Sardegna.

Entosthodon hungaricus was described as *Funaria hungarica* Boros and long considered a European endemic species, until, later on, it was also found in Israel, Kazakhstan, and Kirgizia (Cano et al. 1999). Because of the synonymization of *E. maroccanum* (Meyl.) Hebr. & Lo Giudice with this species, it is currently recorded also for Morocco and Sicilia (Pisarenko et al. 2001). In Europe, this species shows a peculiar distribution, ranging from the Mediterranean basin to the eastern Europe, similarly to some other xerothermic species. In Italy, this species is reported only from Sicilia (Aleffi et al. 2020).

S. Poponessi, A. De Agostini, A. Cogoni

***Homomallium incurvatum* (Schrad. ex Brid.) Loeske (Pylaisiaceae)**

+ **LIG**: Special Area of Conservation "IT1314610 Monte Saccarello – Monte Frontè", Rio Belvedere, Triora (Imperia), in riparian woods of *Alnus glutinosa* (L.) Gaertn. (UTM WGS84: 32T 400153.4876025), 940 m, 23 June 2020, *I. Briozzo, D. Dagnino* (GE B241). – Species new for the flora of Liguria.

Homomallium incurvatum is quite common; it occurs in several Mediterranean countries (Ros et al. 2013) and in most of the northern Italian administrative regions (Aleffi et al. 2020). We found this species on shady rocks within two moist riparian woods, characterized by black alder, in the ambit of the priority Habitat 91E0* "Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)", during the surveys for the Interreg ALCOTRA CoBiodiv and GeBiodiv projects.

D. Dagnino, M. Mariotti, C. Turcato

***Pseudohygrohypnum eugyrium* (Schimp.) Kanda (Pylaisiaceae)**

+ **TAA**: Along the Rio Maftina near Tione (Provincia autonoma di Trento), on a wet siliceous boulder close to the water of the stream in the woods (UTM WGS84: 32T 632918.5100377), 655 m, 25 May 2021, *F. Prosser* (Herb. Prosser No. 05252). – Species new for the flora of Trentino-Alto Adige.

Pseudohygrohypnum eugyrium was reported in Italy by Aleffi et al. (2020) only for Lombardia on the basis of a collection by G. Brusa from Lake Monate (Varese). In Europe, it is not common and is considered Near Threatened (Hodgetts et al. 2019). In the same habitat, *Dichodontium pellucidum* (Hedw.) Schimp., *Homalia trichomanoides* (Hedw.) Brid., and *Thamnobryum alopecurum* (Hedw.) Gangulee were also observed. This species was identified by comparison with the related *P. subeugyrium* (Renauld & Cardot) Ignatov & Ignatova, a recently reconsidered species (Blockeel et al. 2019).

F. Prosser

***Thuidium assimile* (Mitt.) A.Jaeger (Thuidiaceae)**

+ **LIG**: Special Area of Conservation "IT1314610 Monte Saccarello – Monte Frontè", Rio Belvedere, Triora (Imperia), chestnut forest (UTM WGS84: 32T 400506.4874932), 850 m, 23 June 2020, *I. Briozzo, D. Dagnino* (GE B321). – Species new for the flora of Liguria.

Thuidium assimile is a temperate species occurring in several Mediterranean countries (Ros et al. 2013) and in almost all the northern Italian administrative regions (Aleffi et al. 2020). It was found in a mesophilus montane chestnut forest referred to Habitat 9260 "*Castanea sativa* woods" of the 92/43/CEE Habitat Directive. Several other bryophytes were found in the same site, such as *Fissidens taxifolius* Hedw., *Plagiomnium undulatum* (Hedw.) T.J.Kop. var. *undulatum*, *Hypnum cupressiforme* Hedw. var. *cupressiforme*, *Brachythecium rutabulum* (Hedw.) Schimp. var. *rutabulum*, *B. salebrosum* (Hoffm. ex F.Weber & D.Mohr) Schimp., *Atrichum undulatum* (Hedw.) P.Beauv., and *Plagiochila porelloides* (Torr. ex Nees) Lindenb. var. *porelloides*.

D. Dagnino, G. Berta, C. Turcato

Fungi

Entoloma rhombisporum (Kühner & Boursier) E.Horak (Entolomataceae)

+ **LAZ**: Accumoli (Rieti), at the edge of a mixed broad-leaved wood, on slightly acidic soil (UTM WGS84: 33T 359625.4730042), 1274 m, 10 September 1995, *M. Clericuzio* (Herb. GDOR 5092). – Species new for the flora of Lazio.
+ **TOS**: Sorano (Grosseto), in ravine vegetation, mixed broad-leaved wood, on neutral to slightly acidic soil (UTM WGS84: 33T 723444.4729709), 418 m, 10 October 2013, *M. Clericuzio* (Herb. GDOR 5093). – Species new for the flora of Toscana.
+ **LIG**: Piani di Invrea, Varazze (Savona), under *Juniperus communis* L., *Pinus halepensis* Mill., *Quercus ilex* L., and *Cistus albidus* L. (UTM WGS84: 32T 469833.4913347), elev. 66 m, 3 December 2014, *F. Boccardo* (Herb. GDOR 3546). – Species new for the flora of Liguria.

This species is characterized by its cuboid spores and lageniform cheilocystidia. Based on a morphological analysis, *E. rhombisporum* was placed in *E.* subg. *Inocephalus* Noordel., sect. *Staurospora* (Largent & Thiers) Noordel. (Noordeloos 2004). A recent phylogenetic analysis based on molecular data (He et al. 2019) places the species of the subg. *Inocephalus* with cuboid spores in a clade of its own. In Europe, *E. rhombisporum* is one of the few species provided with cuboid spores. *Entoloma rhombisporum* is a rare species, albeit reported from several European countries, e.g., Portugal, Sweden, Germany, Norway, The Netherlands, Denmark, Ireland, United Kingdom (Wales), and Slovenia (GBIF.org 2021).

M. Clericuzio, F. Boccardo, F. Dovana

Cortinarius confirmatus Rob.Henry (Cortinariaceae)

+ **CAL**: Botanical Garden of the University of Calabria, Rende (Cosenza), on the ground between the edge of a riparian wood, *Populus canescens* (Aiton) Sm. as prevailing species, and a deciduous oak stand, mainly *Quercus pubescens* Willd. (UTM WGS84: 33S 605955.4357351), 200 m, 18 November 2020, *G. Sicoli, A.B. De Giuseppe, N.G. Passalacqua* (CLU No. F314). – Species new for the flora of Calabria.

A group of cespitose, medium-sized and agaricoid basidiomata referable to *C.* subg. *Telamonia* (Fr.) Wünsche (due to the dry and dull-coloured pilei) was detected in a mixed broadleaved coppice stand and identified as *Cortinarius confirmatus*, a fungus known as ectomycorrhizal in association with *Quercus* sp. pl. in the Mediterranean thermophilic area and with *Populus alba* L. along riparian woods in the continental zone. The spores, produced in a hymenophore supported by a naked silky stipe, were ovoid to ellipsoid and 7–9 × 4–5 µm in size (Liimatainen et al. 2017). In Italy, the few reports of this species are from the northern regions and Sicilia, where it has probably been described as *C. saturninus* var. *bresadolae* M.M.Moser (Moser 1980; Onofri et al. 2013).

G. Sicoli, A.B. De Giuseppe, N.G. Passalacqua

***Mycenella salicina* (Velen.) Singer (Agaricales, incertae sedis)**

+ **CAL**: Botanical Garden of the University of Calabria, Rende (Cosenza), on moss-covered woody debris in a deciduous forest (*Quercus* sp. pl. as prevailing tree species) (UTM WGS84: 33S 605954.4357296), 205 m, 2 December 2020, *N.G. Passalacqua A.B. De Giuseppe, G. Sicoli* (CLU No. F315). – Species new for the flora of Calabria.

A couple of mycenoid basidiomata belonging to *Mycenella salicina* were separately observed and identified on the ground, among woody residuals covered by moss in a clearing of a mixed broadleaved coppice stand mainly composed of *Q. cerris* L. and *Q. pubescens* Willd. The grey-brown and 2-cm-diameter campanulate and striate pilei were supported by a slender, pale, more brownish lower stipe. The spores are ventricose, whitish and almost-free gills produced sub-globose and distinctly smooth, thus differing from the verrucose spores detectable in the other species of the same genus (Knudsen 1992; Cortecuisse and Duhem 1995). *Mycenella salicina* was so far only reported from northern Italy (Onofri et al. 2013).

G. Sicoli, A.B. De Giuseppe, N.G. Passalacqua

***Oxyporus latemarginatus* (Durieu & Mont.) Donk (Oxyporaceae)**

+ **CAL**: Bosco di Mavigliano, Montalto Uffugo (Cosenza), on woody residuals laying on the ground at the edge of a deciduous woodland (UTM WGS84: 33S 604782.4360104), 205 m, 24 October 2020, *D. Puntillo, G. Maiorca, G. Sicoli* (CLU No. F414). – Species new for the flora of Calabria.

Resupinate whitish basidiomata of *Oxyporus latemarginatus* were detected and identified based on their macro-morphology and on the hyaline, inamyloid, ovoid-ellipsoid and smooth basidiospores (Stalpers 1978). Identical basidiomata had been observed among broadleaved wood debris in a courtyard of a building in the urban area of the municipality of Rende (Cosenza) in the autumn of 2019 (G. Maiorca, pers. comm.). This polyporaceous and wood-inhabiting fungus is widespread in the boreal hemisphere, mainly on deciduous trees, as a saprotroph or a weak pathogen causing white rot in the heartwood (Bernicchia 1990). Reports of *O. latemarginatus* cover almost all administrative regions in northern Italy and part of central Italy, but apparently not southern Italy, except Campania and Puglia (Sicoli et al. 2004, Onofri et al. 2013).

D. Puntillo, G. Maiorca, G. Sicoli

***Psathyrella corrugis* (Pers.) Konrad & Maubl. (Psathyrellaceae)**

+ **CAL**: Botanical Garden of the University of Calabria, Rende (Cosenza), on an old sleeper in the vicinity of a deciduous oak stand (*Quercus* sp. pl. as prevailing tree species) (UTM WGS84: 33S 605922.4357156), 215 m, 27 November 2019, *A.B. De Giuseppe, G. Sicoli, N.G. Passalacqua* (CLU No. F316). – Species new for the flora of Calabria.

Psathyrelloid basidiomata belonging to *Psathyrella corrugis* were observed sprouting from a sleeper obtained from *Quercus cerris* L. The pilei were conical-to-paraboloid, not striate, reddish-brown, but paler towards the margin, and 2–3 cm in diameter. The stipe was slender, rooting, whitish and pruinose at the apex. The gill trama was hyaline and the spores were ellipsoid, dull brown and exceeding 10 µm in length. Pleurocystidia were obclavate, lageniform-to-fusiform, and cheilocystidia were versiform and intermingled with sphaeropedunculate cells (Kits van Waveren 1985; Vesterholt and Knudsen 1992). Although reported from the majority of Italian administrative regions, *P. corrugis* has not yet been observed and described in Calabria (Onofri et al. 2013).

G. Sicoli, A.B. De Giuseppe, N.G. Passalacqua

Lichens

Anaptychia bryorum Poelt (Physciaceae)

+ LOM: Dossi di Santicolo, Corteno Golgi (Brescia), along the road between Edolo and Santicolo, on a schist outcrop (Scisto di Edolo) (UTM WGS84 32T 599618.5113738), 807 m, 19 August 2019, leg. *G. Gheza*, det. *G. Gheza*, *J. Nascimbene*, *P.L. Nimis* (TSB). – Species confirmed for the flora of Lombardia.

Anaptychia bryorum is an arctic-alpine to boreal-montane species generally growing amongst mosses and dying plants on base-rich siliceous substrates in the alpine and subalpine belts, quite widespread along all the Alps (Nimis et al. 2018). The lobes, rich in marginal adventitious lobules and the upper cortex made of interwoven hyphae allow to distinguish it from the similar *Phaeophyscia constipata* (Norrl. & Nyl.) Moberg, which lacks marginal lobules and paraplectenchymatous upper cortex (Nimis 2021). The only previous record from Lombardia is referred to an *exsiccatum* by Anzi (Lich. Lang. 54 A, named "*Parmelia pulverulenta* var. *angustata*"), cited by Lynge (1935).

G. Gheza, J. Nascimbene, P.L. Nimis

Athallia cerinelloides (Erichsen) Arup, Frödén & Søchting

+ **VDA**: Great Saint Bernard Valley, Etroubles (Aosta), on bark of *Fraxinus excelsior* L. (UTM WGS84: 32T 362853.5075438), 1281 m, 15 June 2021, *D. Isocrono, S. Ongaro* (TO 3809, Herb. Isocrono DI91). – Species new for the flora of Valle d'Aosta.

Athallia cerinelloides is a crustose epiphytic lichen, usually growing on branches and twigs of trees, quite rare in Italy (Nimis 2016). It has a more northern distribution than *Athallia cerinella* (Nyl.) Arup, Frödén & Søchting with which it can be mistaken, unless one carries out a microscopic investigation of the spores. This record is the first for Valle d'Aosta; the specimen was collected together with *Lecania cyrtella* (Ach.) Th.Fr..

D. Isocrono, S. Ongaro

***Baeomyces placophyllus* Ach. (Baeomycetaceae)**

+ LOM: Laghetti delle Valli, Schilpario (Bergamo), on soil near a small alpine lake (UTM WGS84 32T 590961.5097815), 1988 m, 10 August 2020, *G. Gheza* (PAV); trail between Pianaccio and Lago Seroti inferiore, Vezza d'Oglio (Brescia), on soil at the edge of a trail (UTM WGS84 32T 604507.5125018), 2179 m, 25 August 2020, *G. Gheza* (PAV). – Species confirmed for the flora of Lombardia.

Baeomyces placophyllus has been reported very rarely in recent times from the Italian Alps (Nimis 2016 and references therein). The only records from Lombardia were reported by Anzi (1862) from heathlands in the hills surrounding Como and high-altitude sites near Mount Gavia and the latter record was then cited by Giacomini (1937). These records widen the species range in Lombardia to the Orobic Alps. The collected specimens were sterile and had poorly developed marginal lobes.

G. Gheza

***Bagliettoa marmorea* (Scop.) Gueidan & Cl.Roux (Verrucariaceae)**

+ **PIE**: Val Pennavaira, Alto (Cuneo), growing on a limestone outcrop (UTM WGS84: 32T 420192.4884618), 725 m, 20 April 2021, leg. *M. Lonati* det. *S. Ongaro, D. Isocrono* (TO 3807, Herb. Isocrono DI104). – Species new for the flora of Piemonte.

Bagliettoa marmorea is a common crustose lichen characterized by an endolithic thallus with a typical pink lithocortex and by completely immersed perithecia. It is common in Europe, in the Mediterranean region, but it is also widespread throughout the Alps (Nimis et al. 2018). To date, it has been reported in all the Italian administrative regions except Piemonte and Valle d'Aosta. It grows on hard limestone, a substratum rarely occurring in Piemonte, mainly in slightly to moderately eutrophic environments. The absence of a radially cracked involucrellum helps to separate this species from the congeneric *Bagliettoa cazzae* (Zahlbr.) Vězda & Poelt that also shows a pink-violet lithocortex (Yuzon et al. 2014).

D. Isocrono, S. Ongaro

***Calicium quercinum* Pers. (Caliciaceae)**

+ UMB: Civitelle, Stroncone (Terni), on bark of *Castanea sativa* Mill. (UTM WGS84: 33T 310300.4706667), 850 m, 25 February 2021, leg. *R. Ciotti, S. Ravera*, det. *S. Ravera* (PAL). – Species new for the flora of Umbria.

Calicium quercinum is a pin lichen typically found on lignum and bark of deciduous trees, more rarely of conifers, especially on old oaks and *Castanea* (Nimis 2016). This specimen colonized the cracked bark of old tree trunks in a fruit chestnut grove, together with other Caliciales, e.g., *Calicium glaucellum* Ach. and *Chaenothecopsis pusilla* (Ach.) A.F.W.Schmidt.

S. Ravera, R. Ciotti

***Nephroma resupinatum* (L.) Ach. (Nephromataceae)**

+ LOM: Mount Lesima near Rifugio Nassano, Brallo di Pregola (Pavia), on a beech stump in a beech forest (UTM WGS84: 32T 520500.4951461), 1398 m, 4 October 2017, *G. Gheza* (PAV); Bagni di Masino, Valmasino (Sondrio), at the base of an old beech in an old-growth beech forest (UTM WGS84: 32T 546265.5121129), 1149 m, 23 August 2019, *G. Gheza* (PAV). – Species confirmed for the flora of Lombardia.

Nephroma resupinatum is a broad-lobed foliose cyanolichen typically found in shaded and moist forests, in *Lobarion* communities, on bark at the base of trunks or on stumps. The last records from Lombardia date back to the second half of the 19th century (Nimis 1993). It is listed in the Red List of epiphytic lichens of Italy as Near Threatened (Nascimbene et al. 2013).

G. Gheza, M. Barcella, S. Assini

***Pectenia atlantica* (Degel.) P.M.Jørg., L.Lindblom, Wedin & S.Ekman**

– **LAZ**. – Species to be excluded from the flora of Lazio.
– **UMB**. – Species to be excluded from the flora of Umbria.

Pectenia atlantica is a a mild-temperate cyanolichen mainly found in western in Europe, doubtfully occurring in Italy where it could be restricted to humid-warm, oceanic areas (Nimis and Martellos 2021). This species and *P. plumbea* (Lightf.) P.M.Jørg., L.Lindblom, Wedin & S.Ekman, have been considered "species pairs" (i.e. closely related species that primarily differ in their reproductive modes) until a revision of the genus based on DNA analysis (Otálora et al. 2017). This made necessary to check all the specimens recorded as *P. atlantica*. All Italian samples in Herb. Ravera, on which previous records from Lazio and Umbria were based (see Nimis 2016), proved to belong to *P. plumbea* insofar as they lack the finely to strongly longitudinal stripes that characterize *P. atlantica*.

S. Ravera

***Phaeophyscia pusilloides* (Zahlbr.) Essl. (Physciaceae)**

+ **VDA**: Valpelline, Oyace (Aosta), on bark of *Fraxinus excelsior* L. (UTM WGS84: 32T 373023.5076999), 1089 m, 15 June 2021, *D. Isocrono, S. Ongaro* (TO 3808, Herb. Isocrono DI90). – Species new for the flora of Valle d'Aosta.

Phaeophyscia pusilloides is a foliose lichen with grey to grey-brown narrow epruinose lobes with distinctive capitate soralia borne, at least in the early stages, on the ends of short side lobes. Morphology and position of soralia distinguish *P. pusilloides* from *P. insignis* (Mereschk.) Moberg and *P. orbicularis* (Neck.) Moberg. The species does not tolerate highly eutrophicated conditions and often occurs, as in this case, on deciduous trees with subneutral bark.

D. Isocrono, S. Ongaro

***Polyblastia ventosa* Arnold (Verrucariaceae)**

+ VEN: Vette Feltrine, Colle Cesta, Dolomiti Bellunesi National Park (Belluno), on carbonatic rock (UTM WGS84: 32T 719837.5107983), 2010 m, 13 June 2020, *J. Nascimbene* (BOLO). – Species confirmed for the flora of Veneto.

This lichen is characterized by a crustose, endosubstratic or thinly episubstratic thallus and by black perithecia with a flattened apex and a frequently open ostiolum. Its optimum habitat is on exposed carbonatic rocks above the treeline (Nimis 2016) where it is likely common, but strongly undercollected due to its small size and endolithic habitus. The last records from Veneto date back to the second half of the 19th century (Nimis 1993).

J. Nascimbene

***Protoparmeliopsis bolcana* (Pollini) Lumbsch (Lecanoraceae)**

+ TAA: Summit of Colbricon, Paneveggio-Pale di San Martino Natural Park (Trento), on porphyric rock (UTM WGS84: 32T 712157.5128164), 2600 m, 6 August 2021, leg. *J. Nascimbene*, det. *J. Nascimbene*, *P.L. Nimis* (BOLO). – Species new for the flora of Trentino-Alto Adige.

This crustose-placodioid lichen, belonging to the *P. muralis*-complex, is characterized by flattened to weakly convex central areoles with a distinct black margin and by sparse apothecia that have an irregular shape when mature. It is mainly known from the Mediterranean belt (Nimis 2016) being very rare at high elevations, where it occurs in xeric, sun-exposed sites, as in the case of this specimen, that was collected on the horizontal surface of a porphyric block on the southern slopes of the summit area of Colbricon.

J. Nascimbene, P.L. Nimis

***Pyrenula nitidella* (Schaer.) Müll.Arg. (Pyrenulaceae)**

+ VEN: Feltre, Villabruna, Valone (Belluno), on *Carpinus betulus* L. along a gorge in the hills around Villabruna (UTM WGS84: 32T 726632.5103774), 390 m, 2 December 2017, *J. Nascimbene* (BOLO). – Species confirmed for the flora of Veneto.
+ LOM: Bosco Fontana Natural Reserve (Mantova), on *Carpinus betulus* L. (UTM WGS84: 32T 636816.5006744), 30 m, 22 November 2005, *J. Nascimbene* (BOLO). – Species confirmed for the flora of Lombardia.

In northern Italy, this crustose lichen colonizing deciduous trees in open-humid woodlands is extremely rare (Nimis 2016) and likely survives in the small, scattered remnants of lowland deciduous forests (e.g., Bosco Fontana Natural Reserve) or in microrefugia along gorges (e.g., Feltre). The last records from Veneto and Lombardia date back to the second half of the 19th century (Nimis 1993).

J. Nascimbene

***Ramalina obtusata* (Arnold) Bitter (Ramalinaceae)**

+ EMR: Malalbergo (Bologna), on bark of *Castanea sativa* Mill. in a managed chestnut orchard (UTM WGS84: 32T 654004.4898611), 900 m, 13 June 2018, leg. *S. Gambini*, det. *F. Bottegoni*, *C. Vallese* (BOLO); Ca' di Priami, Loiano (Bologna), on bark of *Castanea sativa* Mill. in a managed chestnut orchard (UTM WGS84: 32T 687763.4904825), 640 m, 4 June 2018; leg. *S. Gambini*, det. *F. Bottegoni*, *C. Vallese* (BOLO). – Species new for the flora of Emilia-Romagna.

Ramalina obtusata is a fruticose-shrubby, greenish to greenish-grey chlorolichen. The laciniae generally lack side branches and occur as fistulose, inflated and more or less pellucid. Labriform to helmet-shaped soralia are common and develop as farinose soredia mainly found on terminal or subterminal vesicles. Apothecia are extremely rare (Nimis 2016). *Ramalina obtusata* is a cool-temperate to southern boreal epiphytic lichen found on the bark of old conifers and rarely on deciduous trees, in open montane forests. This species has been reported only in north-eastern and southern Italy (Nimis and Martellos 2020). It is included in the Italian red list of epiphytic lichens as Vulnerable (Nascimbene et al. 2013).

F. Bottegoni, C. Vallese, G. Pezzi

***Sanguineodiscus aractinus* (Fr.) I.V.Frolov & Vondrák (Teloschistaceae)**

+ TOS: Fetovaia, island of Elba island, Arcipelago Toscano National Park (LI), on granite near the coast (UTM WGS84: 32T 594744.4731732), 10 m, 16 July 2021, leg. *J. Nascimbene*, det. *J. Nascimbene*, *P.L. Nimis* (BOLO). – Species new for the flora of Toscana.

In Italy, this coastal lichen of acidic siliceous rocks is currently known only from Sardegna. Previous records from inland areas are now referred to *Caloplaca viridirufa* (Ach.) Zahlbr. (Nimis 2016). This species is characterized by a dark grey to almost black thallus and brown-orange to brick red apothecia with a persistent, dark grey, thalline margin. Our specimen was collected a few meters above sea-level, together with *Physcia mediterranea* Nimis, *Xanthoparmelia glabrans* (Nyl.) O.Blanco, A.Crespo, Elix, D.Hawksw. & Lumbsch and *Xanthoria resendei* Poelt & Tav..

J. Nascimbene, P.L. Nimis

References

Aleffi M, Tacchi R, Poponessi S (2020) New checklist of the bryophytes of Italy. Cryptogamie, Bryologie 41: 147–195. https://doi.org/10.5252/cryptogamie-bryologie2020v41a13

Anzi M (1862) Manipulus lichenum rariorum vel novorum, quos in Longobardia et Etruria collegit et enumeravit Presb. Martinus Anzi. Commentarii della Società Crittogamologica Italiana 1: 130–166.

Bernicchia A (1990) *Polyporaceae* s.l. in Italia. Istituto di Patologia vegetale, Università degli Studi di Bologna, Bologna: 354–355.

Blockeel TL, Kiebacher T, Long DG (2019) *Hygrohypnum subeugyrium* (Renauld Cardot) Broth. (Hypnales), a neglected British moss, with a note on its occurrence in the Himalayas. Journal of Bryology 41: 12–20. https://doi.org/10.1080/03736687.2018.1551829

Cano MJ, Ros R.M, Guerra J, González J (1999) The identity of *Entosthodon hungaricus* (Boros) Loeske and *E. maroccanus* (Méyl.) Hebr. & Lo Giudice (=*Physcomitrium maroccanum* Meyl.). Journal of Bryology 21: 67–70. https://doi.org/10.1179/jbr.1999.21.1.67

Cogoni A, Scrugli A (2000) *Acaulon fontiquerianum* Casas et Sérgio (Musci, Pottiaceae) new to Sardinia (Italy). Cryptogamie, Bryologie 21: 285–288. https://doi.org/10.1016/S1290-0796(00)01044-0

Courtecuisse R, Duhem B (1995) Mushrooms and Toadstools of Britain and Europe. Harper-CollinsPublishers. Ramsbury, Wiltshire, UK.

Ellis LT, Aleffi M, Bednarek-Ochyra H, Bakalin VA, Boiko M, Calleja JA, Fedosov VE, Ignatov MS, Ignatova EA, Garilleti R, Hallingbäck T, Lönnell N, Hodgetts N, Kiebacher T, Larraín J, Lebouvier M, Lüth M, Mazimpaka V, Vigalondo B, Lara F, Natcheva R, Nobis M, Nowak A, Orgaz JD, Guerra J, Pantović J, Nikolić N, Sabovljević MS, Sabovljević AD, Pisarenko OYu, Plášek V, Skoupá Z, Poponessi S, Privitera M, Puglisi M, Skudnik M, Wang QH (2017) New national and regional bryophyte records, 51. Journal of Bryology 39: 177–190. https://doi.org/10.1080/03736687.2017.1298297

Frahm JP, Stech M (2006) The taxonomic status of intermediate forms of *Campylopus introflexus* (Hedw.) Brid. and *C. pilifer* Brid. (Dicranaceae, Bryopsida) newly discovered in Europe. Cryptogamie, Bryologie 27: 213–223.

GBIF.org (2021) GBIF Secretariat: GBIF. Backbone Taxonomy https://doi.org/10.15468/39omei Accessed via https://www.gbif.org/species/3345834 [30 September 2021].

Giacomini V (1937) Licheni di Valle Camonica. Atti dell'Istituto Botanico e del Laboratorio Crittogamico dell'Università di Pavia (serie 4) 9: 123–149.

Hassel K, Söderström L (2005) The expansion of the alien mosses *Orthodontium lineare* and *Campylopus introflexus* in Britain and continental Europe. The Journal of the Hattori Botanical Laboratory 97: 183–193.

He X-L, Horak E, Wang D, Li T-H, Peng W-H, Gan B-C (2019) Descriptions of five new species in *Entoloma* subgenus Claudopus from China, with molecular phylogeny of *Entoloma* s.l. Mycokeys 61: 1–26. https://doi.org/10.3897/mycokeys.61.46446

Hodgetts N, Calix M, Englefield E, Fettes N, Garcia Criado M, Patin L, Nieto A, Bergamini A, Bisang I, Baisheva E, Campisi P, Cogoni A, Hallingback T, Konstantinova N, Lockhart N, Sabovljevic M, Schnyder N, Schrock C, Sergio C, Sim Sim M, Vrba J, Ferreira CC, Afonina O, Blockeel T, Blom H, Caspari S, Gabriel R, Garcia C, Garilleti R, Gonzalez Mancebo J, Goldberg I, Hedenas L, Holyoak D, Hugonnot V, Huttunen S, Ignatov M, Ignatova E, Infante M, Juutinen R, Kiebacher T, Kockinger H, Kučera J, Lonnell N, Luth M, Martins A, Maslovsky O, Papp B, Porley R, Rothero G, Soderstrom L, Ştefănuţ S, Syrjanen K, Untereiner A, Vaňa J, Vanderpoorten A, Vellak K, Aleffi M, Bates J, Bell N, Brugues M, Cronberg N, Denyer J, Duckett J, During HJ, Enroth J, Fedosov V, Flatberg K-I, Ganeva

A, Gorski P, Gunnarsson U, Hassel K, Hespanhol H, Hill M, Hodd R, Hylander K, Ingerpuu N, Laaka-Lindberg S, Lara F, Mazimpaka V, Mežaka A, Muller F, Orgaz JD, Patino J, Pilkington S, Puche F, Ros RM, Rumsey F, Segarra-Moragues JG, Seneca A, Stebel A, Virtanen R, Weibull H, Wilbraham J, Żarnowiec J (2019). A miniature world in decline: European Red List of Mosses, Liverworts and Hornworts. IUCN, Brussels, Belgium. 87 pp. https://doi.org/10.2305/IUCN.CH.2019.ERL.2.en

Kits van Waveren E (1985) The Dutch, French and British species of Psathyrella. Persoonia, Suppl. Vol. 2: 1–300.

Knudsen H (1992) *Mycenella* (Lange) Sing. In: Nordic Macromycetes, Vol. 2 (Hansen L. and Knudsen H. Eds.), Nordsvamp, Copenhagen, Denmark.

Liimatainen K, Carteret X, Dima B, Kytövuori I, Bidaud A, Reumaux P, Niskanen T, Ammirati JF, Bellanger J-M (2017) *Cortinarius* section *Bicolores* and section *Saturnini* (Basidiomycota, Agaricales), a morphogenetic overview of European and North American species. Persoonia 39: 175–200. https://doi.org/10.3767/persoonia.2017.39.08

Lo Giudice R (1995) *Acaulon fontiquerianum* Casas & Sérgio (Pottiaceae, Bryophytina), new to the bryoflora of Italy. Flora Mediterranea 5: 69–72.

Lynge B (1935) Physciaceae. In: Rabenhorst GL (Ed) Kryptogamen-Flora von Deutschland, Österreich und der Schweiz. 2nd IX, Die Flechten, Abt. 6 (1). Borntraeger, Leipzig.

Moser M (1980) Guida alla determinazione dei funghi. Vol. 1° (Polyporales, Boletales, Agaricales, Russulales). Arti Grafiche Saturnia s.a.s., Trento, Italy.

Nascimbene J, Martellos S, Nimis PL (2006) Epiphytic lichens of tree-line forests in the Central-Eastern Italian Alps and their importance for conservation. The Lichenologist 38: 373–382. https://doi.org/10.1017/S0024282906006220

Nascimbene J, Nimis PL, Ravera S (2013) Evaluating the conservation status of epiphytic lichens of Italy: a red list. Plant Biosystems 147: 898–904. https://doi.org/10.1080/11263504.2012.748101

Nimis PL (1993) The lichens of Italy: an annotated catalogue. Monografie XII. Museo Regionale di Scienze Naturali di Torino, Torino. 897 pp.

Nimis PL (2016) The lichens of Italy – A second annotated catalogue. EUT Edizioni Università di Trieste, Trieste. 740 pp.

Nimis PL, Martellos S (2021) ITALIC - The Information System on Italian Lichens. Version 6.0. University of Trieste, Dept. of Biology. www.italic.units.it [accessed 6.8.2021]

Nimis PL (2021) Keys to the lichens of Italy – 09) Foliose Physciaceae. http://italic.units.it/flora/index.php?procedure=ext_key_home&key_id=1672 [accessed 5.8.2021].

Nimis PL, Hafellner J, Roux C, Clerc P, Mayrhofer H, Martellos S, Bilovitz PO (2018) The lichens of the Alps – an annotated checklist. MycoKeys 31: 1–634. https://doi.org/10.3897/mycokeys.31.23568

Noordeloos ME (2004) *Entoloma* sl. Fungi Europei, vol. 5A. Candusso, Alassio, Italy.

Onofri S, Bernicchia A, Filipello Marchisio V, Padovan F, Perini C, Ripa C, Savino E, Venturella G, Vizzini A, Zotti M, Zucconi L (2013) Checklist of the macrobasidiomycetes of Italy. http://dryades.units.it/macrobasidiomiceti/index.php [accessed 1.8.2021]

Otálora MAG, Martinez I, Aragon G, Wedin M (2017). Species delimitation and phylogeography of the *Pectenia* species-complex: A misunderstood case of species-pairs in lichenized

fungi, where reproduction mode does not delimit lineages. Fungal Biology 121: 222–233. https://doi.org/10.1016/j.funbio.2016.12.001

Pisarenko O, Ignatova EA, Ignatov MS (2001) *Entosthodon hungaricus* (Boros) Loeske (Funariaceae, Musci) in Altaisky territory, South Siberia. Arctoa 10: 97–102. https://doi.org/10.15298/arctoa.10.10

Reimers H (1956). Beitrage zur Mossflora von Italien. Willdenowia 1: 533–562.

Richards P.W. (1963) *Campylopus introflexus* (Hedw.) Brid. and *C. polytrichoides* De Not. in the British Islands: a preliminary account. Transactions of the British Bryological Society 3: 404–417. https://doi.org/10.1179/006813863804812390

Ros RM, Mazimpaka V, Abou-Salama U, Aleffi M, Blockeel T L, Brugués M, Cros RM, Dia MG, Dirkse GM, Draper I, El-Saadawi W, Erdag A, Ganeva A, Gabriel R, Gonzales- Mancebo JM, Granger C, Herrnstadt A, Hugonnot V, Khalil K, Kürschner H, Losada-Lima A, Luís L, Mifsus S, Privitera M, Puglisi M, Sabovlijević, Sèrgio C, Shabbara HM, Sim-Sim M, Sotiaux A, Tacchi R, Vanderpoorten A, Wernner O (2013) Mosses of the Mediterranean, an annotated checklist. Cryptogamie, Bryologie 34: 99–283. https://doi.org/10.7872/cryb.v34.iss2.2013.99

Rossi G, Montagnani C, Gargano D, Peruzzi L, Abeli T, Ravera S, Cogoni A, Fenu G, Magrini S, Gennai M, Foggi B, Wagensommer RP, Venturella G, Blasi C, Raimondo FM, Orsenigo S (Eds.) (2013) Lista Rossa della Flora Italiana. 1. Policy Species e altre specie minacciate. Comitato Italiano IUCN e Ministero dell'Ambiente e della Tutela del Territorio e del Mare. 54 pp.

Sicoli G, Colella C, Luisi N, Cirulli M (2004) *Abortiporus biennis* (Bull.: Fr.) Sing. e *Oxyporus latemarginatus* (Dur. & Mont. ex Mont.) Donk osservati sul ciliegio in Puglia. Micologia Italiana 33: 3–9.

Stalpers JA (1978) Identification of wood-inhabiting Aphyllophorales in pure culture. Studies in Mycology 16: 1–248.

Vesterholt J, Knudsen H (1992) Psathyrella (Fr.) Quél. In: Hansen L, Knudsen H (Eds) Nordic Macromycetes, Vol. 2, Nordsvamp, Copenhagen, Denmark.

Yuzon J, Roux C, Lendemer JC, Gueidan C (2014) Molecular phylogeny and taxonomy of the endolithic lichen genus *Baglietoa* (Ascomycota: Verrucariaceae). Taxon 63: 1177–92. https://doi.org/10.12705/636.10