

New records for lichen regional floras of Italy

PAOLO GIORDANI¹, RENATO BENESPERI², GUIDO RIZZI¹, GIORGIO BRUNIALTI³

¹ Dip.Te.Ris. Polo Botanico Hanbury dell'Università
Corso Dogali 1n, 16136 Genova

² Dipartimento di Biologia Vegetale dell'Università
Via G. La Pira 4, I- 50121 Firenze

³ TerraData s.r.l. environmetrics, Dipartimento di Scienze Ambientali dell'Università
Via P.A. Mattioli 4, I-53100 Siena

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Nuove segnalazioni per un Flora lichenica regionale italiana — Vengono segnalati 35 *taxa* nuovi per le flore licheniche di alcune regioni italiane. Una specie è nuova per il Nord Italia, 2 per l'Italia Centrale, 21 per la Liguria, 5 per la Toscana, una per l'Abruzzo, una per il Lazio, una per la Sardegna, una per la Sicilia. Vengono fornite anche informazioni aggiuntive per alcune entità rare. È confermata la presenza di alcuni *taxa* collezionati nel XIX secolo.

Key words: epiphytic cryptogams, epilithic cryptogams, rare species.

Although many Italian regions are well investigated, also thanks to several field trips organized by Italian Lichen Society, the lichenological exploration of the country is far from being complete and many areas of high biogeographical interest e.g. the higher Apennine peaks or the Alpi Apuane, still deserve further exploration (Tretiach et al. 2008).

In this paper, 35 lichen species, collected during several field trips in Italy are listed, which are additions to the lichen flora of some Italian regions.

Methods

During the excursions, lichen samples were collected on trees, soil and rocks. Lichens were identified in the laboratory using a binocular microscope (magnification up to x50). For sections of thalli and fruiting bodies, a microscope, with x5, x10, x20, x100 objectives with possibility of oil immersion (magnification x1000), was used. When necessary,

polarized light was also used for detecting crystal and granules.

Chemical spot tests K, C, KC and PD were performed for most samples. Some samples belonging to the genera *Peltigera* and *Xanthoparmelia* were analyzed by TLC according to Culberson (1972), Culberson et al. (1981), and White & James (1985). For the identification of the species were followed the keys by Nimis (1987), Clauzade & Roux (1985) Vitikainen (1994). For each species the most recent binomial as well as the complete list of collecting site are reported, along with bibliographic references for other Italian records. For some selected species short notes are also added. Numbers before species refer to collecting localities.

Species previously not reported are indicated as follows: Northern Italy “!”; Central Italy “*”, Liguria “§”, Toscana “o”, Sardegna “α”, Lazio “#” Abruzzo “¥”, Sicilia “Φ”. Biogeografic attribution of the regions to N and C Italy follows Nimis & Martellos (2008).

Nomenclature follows Nimis & Martellos (2008). Author's abbreviations are according to Brummit & Powell (1992). All the samples are preserved in the Herbarium Universitatis Genuensis (GE) or in the Botanical Section of the Natural History Museum in Florence (FI). The collection sites are described afterwards.

Description of the places of sampling

Toscana

1: Colognole (Livorno), 150m, on *Quercus ilex*, 10.2003, Leg. P. Giordani, G. Brunialti, G. Rizzi.

2: Cala Violina (Grosseto), 50m, on *Quercus ilex*, 04.2005, Leg. G. Brunialti, L. Frati.

3: Campolino, Abetone, Tuscan-Emilian Apennine (Pistoia), siliceous rocks, 1700m, 21.06.2001, leg. R. Benesperi.

4: Orrido di Botri, Val Fegana, Tuscan-Emilian Apennine (Lucca), calcareous rocks, 900m, 04.04.2005, leg. R. Benesperi.

5: Monte Murlo, Pieve S. Stefano (Arezzo), ultramafic rocks and soil, 750m, 20.06.2006, leg. R. Benesperi.

6: Poggio delle Galbane, Pieve S. Stefano (Arezzo), on decorticated stumps of *Juniperus macrocarpa*, 700m, 13.06.2006, leg. R. Benesperi.

7: Monte Corchia, Apuan Alps (Massa-Carrara), 1000m, siliceous rocks, 09.06.2006, leg. R. Benesperi.

Liguria

8: Passo Cento Croci, Cuneo Grosso (La Spezia), 980m, on *Pinus sylvestris*, 07.2002, Leg. P. Giordani.

9: Valle Argentina, Badalucco, M. Cavanelle (Imperia), 1415m, on *Pinus sylvestris*, 08.2003, Leg. P. Giordani.

10: Val Trebbia, Montebruno, Caprile (Genova), 775 m, on *Castanea sativa*, 07.2002, Leg. P. Giordani.

11: Fiascherino, sotto la Serra (La Spezia), 80m, on *Olea europaea*, 06.2002, Leg. P. Giordani.

12: Valle Argentina, S. Giovanni della Valle (Imperia), 400m, on *Castanea sativa*, 08.2003, Leg. P. Giordani.

13: Maissana, Rocche di Valletti (La Spezia), 700 m, on *Quercus cerris*, 06.2002, Leg. P. Giordani.

14: Valle Impero, Ville S. Pietro (Imperia), 496m, on *Prunus* sp., 08.2003, Leg. P. Giordani.

15: Valle Arroscia, M. S. Cosimo (Imperia), 950 m, on *Alnus incana*, 08.2003, Leg. P. Giordani.

16: Romito Magra, Ponte Vecchio (La Spezia), 11 m, on *Populus alba*, 03.2002, Leg. P. Giordani.

17: Sarzana, presso Torr. Isolone (La Spezia), 5m, on *Populus alba*, 03.2002, Leg. P. Giordani.

18: Castelnuovo Magra (La Spezia), 100m, on *Olea europaea*, 06.2002, Leg. P. Giordani.

19: Passo del Bracco, Bracco (Genova), 390m, on *Ostrya carpinifolia*, 07.2002, Leg. P. Giordani.

20: Chiavari, Rì Alto (Genova), 230m, on *Olea europaea*, 07.2002, Leg. P. Giordani.

21: Genova, Nervi (Genova), 89m, on *Cupressus sempervirens*, 06.2002, Leg. P. Giordani.

22: Val Trebbia, Casanova, M. Montarlone (Genova), 1310m, on *Fagus sylvatica*, 07.2002, Leg. P. Giordani.

23: Ceparana (La Spezia), 90m, on *Quercus pubescens*, 06.2002, Leg. P. Giordani.

24: Genova, Molinetti di Nervi (Genova), 120m, on *Pinus halepensis*, 07.2002, Leg. F. Gallotti.

25: Vado Ligure, Bossarino (Savona) 20m, on *Populus alba*, 07.2003, Leg. P. Giordani.

26: Giusténice, S. Michele (Savona), 190m, on *Quercus pubescens*, 07.2003, Leg. P. Giordani.

27: Spotorno, loc. Tosse (Savona), 390m, on *Quercus pubescens*, 07.2003, Leg. P. Giordani.

28: Chiavari, Sanguinetto (Genova), 260m, on *Olea europaea*, 07.2002, Leg. P. Giordani.

29: Val Graveglia, Conscenti di Né (Genova) 350m, on *Castanea sativa*, 07.2002, Leg. P. Giordani.

30: Caravonica, N.S. delle Vigne (Imperia), 260m, on *Olea europaea*, 08.2003, Leg. P. Giordani.

31: Villalunga (Savona), 300m, on *Olea europaea*, 07.2003, Leg. P. Giordani.

32: Val d'Aveto, Passo Prè de Lame (Genova), 1543m, on *Fagus sylvatica*, 07.2002, Leg. P. Giordani.

33: Val d'Aveto, M. Penna, Passo del Chiodo (Genova), 1410m, on *Abies alba*, 07.2002, Leg. P. Giordani.

34: Val Fontanabuona, S. Colombano Certenoli, loc. Croce di Romaggi (Genova), 240m, on *Quercus pubescens*, 07.2002, Leg. P. Giordani.

35: Castiglione Vara (La Spezia) 90 m, on *Quercus pubescens*, 07.2003, Leg. P. Giordani.

36: Monte Porcile (Genova), 1000m, on jasper, 15.3.2005. Leg. G. Rizzi.

37: Santa Margherita Ligure, Loc. Costasecca

(Genova), 200m, on limestone, 06.1998, Leg. *P. Giordani*

38: Val Graveglia, Piani di Chiappozzo - Pian d'Oneto (Genova), 914m, on basalt, 07.4.2005, Leg. *G. Rizzi*.

39: Incisa – M. Tregin (Genova), 850m, on serpentine, 17.8.2005, Leg. *G. Rizzi*.

40: Val Graveglia, Casoni del Chiappozzo (Genova), 800m, on basalt 06.08.2005, Leg. *G. Rizzi*.

41: M. Roccagrande - lago di Bargone (Genova), 875m, on serpentine, 14.2.05, leg. *G. Rizzi*.

42: Val Graveglia, M. Bossea (Genova), 450m, on serpentine, 15.3.2005, Leg. *G. Rizzi*.

Sardegna

43: Massiccio del Gennargentu, M. Spada (Nuoro), 1500m, on granit, 04.2003, Leg. *G. Rizzi*, *P. Giordani*, *G. Brunialti*.

44: Caprera, punta Fico (Olbia-Tempio), 50m, on granit, 04.2003, Leg. *G. Rizzi*.

45: Tresnuraghes, Rio Mannu (Oristano), 250m,

basalt outcrops along the road, 04.2003, Leg. *G. Rizzi*.

46: Foresta di Marganai (Carbonia-Iglesias), 700m, on *Quercus ilex*, 09.2004, Leg. *P. Giordani*, *G. Brunialti*.

Lazio

47: Peretto (S. Felice Circeo - Latina), 190m, on *Quercus ilex*, 13.7.2005. Leg. *P. Giordani*.

Abruzzo

48: Rosello (Chieti), 1060 m, on *Fagus sylvatica*, 09.2004, Leg. *P. Giordani*, *G. Brunialti*.

Calabria

49: Piano Limina (Reggio Calabria), 1100m, on *Fagus sylvatica*, 09. 2004, Leg. *P. Giordani*, *G. Brunialti*.

Sicilia

50: Bosco di Ficuzza (Palermo), 940m, on *Quercus cerris*, 09/2004, Leg. *P. Giordani*, *G. Brunialti*.

LIST OF TAXA

* *Acarospora sinopica* (Wahlenb.) Körb.

3; New to Central Italy. This species, as also some other boreal and arctic-alpine lichens, finds in Tuscan-Emilian Apennine its southernmost distribution limit (Benesperi, 2001, 2002, 2007; Benesperi et al., 2007; Tretiach et al., 2008).

§ *Arthrosporum popolorum* A.Massal.

21; A widespread but not common species. Probably declining (Nimis & Martellos, 2008). New to Liguria.

§ *Bacidia rosella* (Pers.) De Not.

19; An extremely rare species in the North. New to Liguria.

Cetraria muricata (Ach.) Eckfeldt

5; Collected for the first time on ultramafic rocks (Favero Longo et al., 2004).

§ *Collema ligerinum* (Hy) Harm.

18; New to Liguria.

§ *Hypocenomyce scalaris* (Ach.) M.Choisy

8, 9; New to Liguria.

Hypotrachyna laevigata (Sm.) Hale

1; an extremely rare species: recent records for this species for Toscana are missing being previously reported for the last time

at the beginning of XX century (Baglietto, 1871; Baroni, 1891, 1908; Sambo, 1927).

§ *Imshaugia aleurites* (Ach.) S L.F.Meyer

3; New to Liguria.

§ *Lecanographa amylacea* (Pers.) Egea & Torrente

31; very rare species in the North. New to Liguria.

§ *Lecanora cinereofusca* H.Magn.

32, 33; New to Liguria. The only previously known record for Italy is from Friuli Venezia Giulia (Tretiach & Carvalho, 1995).

Lecanora hypopta (Ach.) Vain.

6; according to Benesperi & Lastrucci (2007) this is the only known site for this rare species in Toscana.

§ *Lecidea turgidula* Fr.

22; species not previously reported for Liguria.

§ *Leptorhaphis atomaria* (Ach.) Szatala

16, 17; New to Liguria.

Lobaria virens (With.) J.R.Laundon

49; according to Nimis & Martellos (2008) this species is probably extinct in the N and along the Adriatic side of the Country,

except for the Gargano peninsula, and very much declining; locally abundant only in few humid forests of the South.

§ # *Mycomicrothelia confusa* D.Hawksw.

24, 25, 26, 27, 28, 29, 30, 47. New to Lazio and Liguria. Its occurrence is probably underestimated in Italy.

¥ *Opegrapha culmigena* Lib.

48; New to Abruzzo. In Italy it is only known for Liguria (Brunialti et al. 1999), Toscana (Terzo & Valcuvia Passadore, 1985; Senese & Critelli, 2000; Loppi et al., 2004) and Puglia (Nimis & Tretiach 1999).

§ *Parmelia omphalodes* (L.) Ach.

36; New to Liguria.

§ *Pertusaria coronata* (Ach.) Th.Fr.

10; a probably overlooked species, often mistaken with the chemically different *P. coccodes* (Nimis & Martellos, 2008). New to Liguria.

**Physcia magnussonii* Frey

3; New to Central Italy. This is the southernmost record for Italy.

Physcia tribacioides Nyl.

35; An extremely rare species. In Italy it is present only in Liguria (Giordani & Brunialti, 2000; Brunialti & Giordani 2003), Toscana (Van den Boom & Aptroot, 1990) and Lazio (Nimis 1987, 1988; Ravera 2001; Massari & Ravera, 2002).

§ *Porina borreri* (Trevis.) D.Hawksw. & P.James

11,12; New to Liguria

§ *Punctelia ulophylla* (Ach.) Van Herk & Aptroot

13, 14, 15; According to Nimis & Martellos (2008) a recently-resurrected species, to be looked for throughout Italy. New to Liguria.

! *Pyrenula chlorospila* Arnold

20; *taxon* not previously reported for Liguria. New to the Northern Italy.

° *Pyxine subcinerea* Stirt.

2; New to Toscana. The distribution of this suboceanic species along the Thyrrhenian side of the Peninsula is rather fragmented. In fact, it was previously reported only for Liguria (Castello et al. 1994; Brunialti & Giordani 2000, 2003; Giordani et al. 2001, 2002, 2003b; Benco et al. 2004; Ravera & Giordani, 2007; Giordani & Ravera 2007) and Lazio (Massari & Ravera, 2002; Ravera & Giordani 2007; Giordani & Ravera 2007). The Italian records are from *Olea* and *Cupressus* (Nimis & Martellos, 2008).

§ *Rinodina nimisii* Giralt & H.Mayrhofer

23; an extremely rare species. New to Liguria. In Italy previously reported only for Sardegna (Giralt et al. 1995).

α *Sticta limbata* (Sm.) Ach.

46, 49; according to Nimis & Martellos (2008) an extremely rare species certainly in danger of extinction in Italy. New to Sardegna. In Calabria the species was previously reported in the Serre (TSB 21617).

Φ *Sticta fuliginosa* (Hoffm.) Ach.

50; an extremely rare species in Italy. New to Sicilia.

§ *Thelopsis rubella* Nyl.

34; New to Liguria.

α *Xanthoparmelia angustiphylla* (Gyeln.) Hale

7, 38, 39, 43, 41, 44; new to Sardegna. In Toscana previously reported only for Orrido di Botri (LU) (Benesperi, 2006)

Xanthoparmelia cumberlandia (Gyeln.) Hale

38, 41; in Italy it is present only in Liguria and Sardegna (Giordani et al. 2002b). According to Hawksworth et al. (2008), the Italian material of this primarily North American species would be worth of molecular investigation.

§ *Xanthoparmelia mexicana* (Gyeln.) Hale

38, 42, 45; new to Liguria. In Italy previously reported only for Sardegna (Giordani et al. 2002b).

§ ° *Xanthoparmelia plittii* (Gyeln.) Hale

7, 41,40; new to Toscana and Liguria. Previously reported only for Sardegna (Giordani et al. 2002b).

§ ° *Xanthoparmelia sublaevis* (Cout.) Hale

6, 40; new to Toscana and Liguria. Previously reported only for Sardegna e Trentino Alto Adige (Giordani et al. 2002b).

Xanthoparmelia verrucigera (Nyl.) Hale

42, 45; a rare species in Italy.

§ *Xanthoria mediterranea* Giralt, Nimis & Poelt

37; very rare in the North. New to Liguria.

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Summary: Thirty-five lichen species, collected during several trips in Italy are listed. These records are additions to the lichen flora of Liguria (21 species), Toscana (5), Sicilia (1), Abruzzo (1), Lazio (1), Sardegna (1); one species is new to N Italy and 2 to C Italy. Additional information is given for some other rare species, while the occurrence of some *taxa* previously reported only from collections dating back to the XIX century is confirmed.