

## Further Additions to the Italian Lichen Flora

Mauro TRETIACH

*Dipartimento di Biologia, Università degli Studi di Trieste,  
Via L. Giorgieri 10, I-34127 Trieste, Italy*

*fax: +39 040 568 855  
phone: +39 040 558 3886  
e-mail: tretiach@units.it*

**Abstract** – Six lichens (*Biatora pontica*, *Mniaecia jungermanniae*, *Opegrapha multipuncta*, *Micarea lutulata*, *Ramonia chrysophaea*, and *Thelotrema suecicum*) and two lichenicolous fungi (*Dactylospora microspora* and *Sclerococcum griseosporodochium*) are reported as new additions to the flora of Italy. A brief morphological and anatomical description of each species and critical notes on ecology and geographic distribution are given. A further list of fifteen species new to particular Italian regions is also reported, with some remarks on their biology or abundance in the survey area.

**Flora / Italy / Lichenicolous fungi / Lichens**

### INTRODUCTION

The aim of this paper is to give some information concerning a few lichens and lichenicolous fungi which are new to the Italian lichen flora or are interesting for their rarity. Collected during erratic samplings (excursions with friends or students, field surveys for biomonitoring studies, etc.), some of them had been transmitted to P.L. Nimis (Trieste) as a last-minute contribution to the second checklist of Italian lichens (Nimis & Martellos, 2003). In this note a brief morphological and anatomical description of each species, and critical comments on their taxonomy, ecology, and geographic distribution are given.

### DATA AND METHODS

Specimens collected by the author, kept in TSB, and further material obtained on loan from FI, GZU, and BG (acronyms of herbaria according to Holmgren *et al.*, 1990), and herb. Etayo (Pamplona), were studied.

Measurements were taken on hand cut sections and squash preparations mounted in glycerine or in water. Ascospores, hamathecial filaments, etc. were measured at 1000x magnification. When possible, measurements are given as: (mean-SD) – mean – (mean + SD) (max.). Permanent slides, mounted in glycerin or lactophenol-cotton blue according to Volkmann-Kohlmeyer & Kohlmeyer (1996), are preserved in the collection of the author.

The standardised method of thin layer chromatography (TLC) (*e.g.* Culberson & Ammann, 1979) was employed for checking the presence of lichen substances.

## RESULTS

*Biatora pontica* Printzen & Tønsberg  
Bibliotheca Lichenologica 86: 40, 2003.

**Specimens studied** – Friuli, Carnic Alps, Lumiei valley, road from the dam to Passo Pura, right bank of Rio Storto, c. 1020 m, in *Abieti-Fagetum*, on *Fagus sylvatica* and *Abies alba*, 30.07.02, *leg. et det.* M. Tretiach (TSB 35418, *conf.* T. Tønsberg, 35364; TSB 35417, *conf.* Ch. Printzen). *Ibid.*, left bank of Rio Storto, c. 1100 m, on *Acer pseudoplatanus*, 04.11.01, *leg. et det.* M. Tretiach (TSB 35534; duplicates will be distributed in Tønsberg's *Lichenes Isidiosi et Sorediosi Crustacei Exsiccati*). Lake of Sauris, Bosco della Stua, 970 m, on *Fagus*, 04.11.02, *leg. et det.* M. Tretiach (TSB 35440).

**Description** – Thallus forming a leprose, ± areolate crust, vivid green, more rarely dark olive green, endophloeodal in esorediate parts. Soralia plane to slightly convex, irregular, effuse, often confluent, with soredia c. 15–35 µm diam. Ascomata apothecia, rare, sessile, biatorine, often immersed among the soredia, c. 0.4–0.6–0.8(–1.2) mm diam.; disc flat, later hemispherical, greenish ochre to bluish-grey, epruinose, glossy; proper margin well developed in section, composed of radiating hyphae, with a thick gel coat covering the tips. Hymenium colourless or with blu-green maculae, I–, but asci and ascogenous hyphae I+ light blue. Epithecium colourless, with terminal cells covered by a thick sheath swelling markedly in K (up to 10–12 µm), and outer edge covered by a gel layer. Hypothecium colourless to pale ochre, with blue or purplish patches. Hamathecium of simple, coherent paraphyses. Asci *Biatora*-type, 8-spored. Ascospores colourless, simple or rarely 1(–3)-septate, ellipsoid to bacilliform, more rarely bifusiform, (7–) 10–13–16 (–23) × 2–3–4 (–4.5) µm.

Thallus Pd–, K–, C+ e KC+ intense orange (TLC: tiophanic acid, arthothelin, asemone, “*pontica*-unknown” [whitish in LW UV before the acid treatment], and further unidentified minor substances). The vivid reaction of subhymenium to K (intense lemon yellow, turning ochraceous after some minutes) and to N (greenish yellow) is typical.

**Remarks** – *Biatora pontica* was recently described from Turkey, being also known from Scandinavia, Eastern North America, and a few localities of Austria and Slovenia (Printzen & Tønsberg, 2003). The European collections were always sterile, but some samples from the Lumiei valley are, on the contrary, richly fertile. In this area the species was collected together with *Haematomma ochroleucum* (Neck.) J.R. Laundon var. *ochroleucum*, *Sticta fuliginosa* (Hoffm.) Ach., and *Thelotrema suecicum* (H.Magn.) P. James (see below), on *Acer*, *Fagus* and *Abies* in a mixed wood that had been subjected to selective cutting. The species is locally rather common, and easily identifiable in the field because of the brilliant green colour of the leprose thallus, which can occasionally be several centimetres large. It seems unbelievable that this species has been neglected so far, because the lichens of the Rio Storto gorge have been frequently studied by eminent liche-

nologists during their visit to the nearby Botanical station of Passo Pura. It cannot be dismissed that the actual dispersal of this species in the area has increased after the clearing of the forest.

**Dactylospora microspora** Etayo

Candollea 46: 391, 1991.

**Specimen studied** – Campania, Vesuvio Nazional Park, S. Vito (NA), loc. Baracche Forestali, 510 m, on a sterile, crustose thallus occurring on *Pinus*, 24.10.1999, *leg.* P.L. Nimis & M. Tretiach, *det.* M. Tretiach (TSB 32251).

**Specimen examined for comparison** – Spain, Andalucía, Málaga, Ronda, Pinsapar de la Cañada del Cuerno, 1500 m, on *Abies pinsapo*, 16.04.1994, M. Casares, J. Etayo, A. Gómez-Bolea & N. Hladún (Herb. Etayo 12198).

**Description** – Apothecia superficial, sessile, to c. 0.3-0.4 mm diam., leci-deine, dark brown to black, with a thin, persistent proper margin. Exciple paraplectenchymatous; cell lumina polygonal, 6.0-7.5  $\mu\text{m}$  diam. Hymenium 50-65  $\mu\text{m}$  high, I+ intense blue; epithecium with small, violet crystals, turning blue in K, brown in  $\text{HNO}_3$ ; subhymenium straw to light brown, prosoplectenchymatous. Paraphyses septate, branched at the apex, with enlarged tips. Asci clavate, polysporous, with an external gelatinous sheath I+ light blue. Ascospores more than 50 per ascus, uniseptate, brown at maturity, 6-7(-8)  $\times$  3-3.5  $\mu\text{m}$ .

**Remarks** – According to Etayo (1991) the tips of the paraphyses are covered by a gelatinous cap that reacts K+ greenish. In the TSB material the tips are also covered by minute, violet crystals, better visible in polarised light, showing a characteristic colour change in K and  $\text{HNO}_3$ . This difference is probably of no taxonomic value, being related to the low pH of the substratum (bark of *Pinus*). No other difference was noted between the collection from Vesuvio, and Spanish material, kindly sent by J. Etayo.

**Micarea lutulata** (Nyl.) Coppins

Lichenologist, 12: 107, 1980. Basion.: *Lecidea lutulata* Nyl., Flora, 56: 297, 1873.

**Specimen studied** – Friuli, Carnic Alps, road Ampezzo-Sauris, Lumiei gorge, loc. Pedanca del Buso, 800 m, siliceous rocks, 28.07.1999, *leg. et det.* M. Tretiach, *conf.* B. Coppins (TSB 31402).

**Description** – Thallus reduced to scurfy granules near the apothecia, pale grey to greenish grey. Ascomata apothecia, small, c. 0.2-0.4 mm diam., convex to globose and often tuberculate, grey-brown to black; exciple absent; hypothecium dark brown, more rarely reddish brown, K-, N-. Hamathecium of dimorphic paraphyses: sparse, thin (0.5-1.0  $\mu\text{m}$ ), ramified, or thicker (1.5-2.0  $\mu\text{m}$ ), simple. Asci 8-spored, *Micarea*-type. Spores simple, ellipsoid to ovoid, c. 6-10  $\times$  2-3(4)  $\mu\text{m}$ .

Thallus Pd-, K-, KC-, C-.

**Remarks** – The locality where *M. lutulata* was found is a narrow, very humid gorge formed by the Lumiei creek, which excavated its way through the two sides of a fault. On the north-exposed slope of this gorge there are some siliceous outcrops emerging from the dolomitic bedrock, shaded by a dense mixed wood with *Picea abies*, *Fagus sylvatica* and *Taxus baccata*. *Micarea lutulata* occurs at the base of the subvertical faces, on rocks protected from the rain and covered by a thin layer of soil. The species, known from temperate Europe and north-eastern North America (Coppins, 1992a), may be occasionally found also on roots.

***Mniaecia jungermanniae*** Boud.

Discom. 4: 100 (1907)

**Specimen studied** – Friuli, Alpi Giulie, M. Florianca (UD), 1580 m, in a hang-bog, on *Cephalozia* sp., 20.07 1991, *leg. et det.* M. Tretiach, *conf.* J. Poelt (TSB 15808).

**Description** – Thallus inconspicuous, reduced to a few hyphae penetrating into the leaflets of moribund liverworts. Ascomata apothecia, sessile, lecideine, blue-green when humid, otherwise dark blue or black, with a distinct proper exciple, K+ yellow-green, N-. Hymenium colourless or blue-green (at least above), with slender, septate paraphyses, with slightly swollen, clavate tips. Asci 8-spored, I-. Spore ± uniseriate, simple, colourless, ellipsoid, c. 16–20–24 × 8–10 µm.

**Remarks** – This species is only known from scattered localities in the suboceanic areas of western and central Europe, being linked to humid environments. The specimen cited here was collected during a phytosociological survey of the hang-bogs of the western Julian Alps carried out by M. Codogno and D. Lausi<sup>†</sup> (Trieste). A member of *Helotiaceae*, *M. jungermanniae* can be identified in the field because of its brilliant colour of apothecia. Probably more common than the few citations may suggest, it should be sought for in the bogs of southern Alps and northern Apennines. The species is reported with some hesitations in this list of lichens and lichenicolous fungi because, according to Nemeč (1899) and Killian (1926), it is a non-lichenized, saprophytic fungus that optionally lives in symbiosis with leafy liverworts. However, according to Coppins (1992b), the biological status of the genus merits further investigations.

**“*Opegrapha*” *multipuncta*** Coppins & P. James[in Coppins, James & Hawksworth], *Lichenologist* 24: 365, 1992.

**Specimens studied** – Friuli, Travesio (UD), 220 m, on *Pyrus*, 30.04.2001, *leg. et det.* M. Tretiach, *conf.* B. Coppins (TSB 34336). Fanna (UD), 250 m, on *Malus*, 29.09.1999, *leg. et det.* M. Tretiach (TSB 31262). *Ibid.*, loc. Mistris, 230 m, on *Juglans*, 08.1999, *leg. et det.* M. Tretiach, *conf.* B. Coppins, (TSB 31263). *Ibid.*, 06.09.1999, *leg. et det.* M. Tretiach (TSB 31264). Venezia Giulia, Trieste Karst, Gropada (TS), VG46 abyss, on *Quercus pubescens*, *leg. et det.* M. Tretiach (TSB 35082).

**Description** – Thallus thin, forming a leprose, sparingly rimose crust, superficial or partly endophloeodal in esorediate parts, with *Trentepohlia* as photobiont. Soralia small, at the beginning punctiform, becoming ± confluent or forming a mosaic with age, vivid orange to dark red-brown, discolouring and becoming ± grey in the herbarium. Soralia Pd-, K-, KC-, C-. No lichen substances detected by TLC.

**Remarks** – This species was repeatedly collected during a biomonitoring survey in the Friulian plain close to the Carnic pre-Alps (Tretiach & Baruffo, 2001), always on isolated trees surrounded by meadows in an area characterised by intense precipitation and high air humidity. In the Trieste Karst, on the contrary, the species was collected only once, in a doline surrounding the VG47 abyss (see Nimis & Tretiach, 1995). The absence of thallus reactions and the bright orange colour of the soralia are good diagnostic characters. According to Coppins *et al.* (1992), the species might be confused with sterile thalli of *O. gyrocarpa* and *O. sorediifera*, but it is distinguished by the smaller, more deeply orange-coloured soralia, and the absence of a black prothallus. The inclusion of this taxon in the genus *Opegrapha* is problematic, because it is unknown in fertile conditions.

In the literature there is some confusion regarding the validity of the name and year of its publication. It first appeared in print as *O. multipuncta* Coppins & P. James *in ed.* (Pentecost & Coppins, 1983), but it was validly published only later in Coppins *et al.* (1992) (Coppins, *in litt.*)

**Ramonia chrysophaea** (Pers.) Vězda

Folia Geobot. Phytotaxon. Bohemosl., 1: 166, 1966. Basion.: *Peziza chrysophaea* Pers., Icon. Descr. Fung. 2: 17, tab. 8, figs. 1-2, 1798.

**Specimen studied** – Italy, Friuli, Carlino (UD), Sacile wood, on *Ulmus*, 20 m, 21.03.02, *leg. et det.* M. Tretiach (TSB 34938).

**Description** – Thallus endophloeodal, effuse, non-layered, ecorticate, with *Trentepohlia*. Ascomata apothecia, deeply urceolate, at first perithecioid, later with the exciple splitting radially and exposing the greyish white disc. True exciple well developed, paraplectenchymatous, formed by thin-walled, angular cells, ending in colourless periphyses which protrude over the hymenium. Hymenium colourless, I+ light blue, with slender, unbranched paraphyses. Asci 8-spored, I-. Ascospores colourless, septate, c. 40-70 × 3.5-4.5 μm.

**Remarks** – The genus *Ramonia*, with its estimated 25 species (Kalb, 2001), has a mainly tropical distribution. In Italy only two species were previously known, the epilithic *R. calcicola* (Tretiach, 1997), and the epiphytic *R. luteola*, known from scattered localities in Tuscany (Senese & Critelli, 2000), and Emilia (Hb. A. Vězda, *leg.* M.T.). *Ramonia chrysophaea* is distinguished from the latter species by spore size and morphology, and by the absence of an evident perispore.

This species was collected on a single, old *Ulmus* tree that survived the elm disease in one of the last planitial woods of the Friulian plain. These forest ecosystems host a number of interesting phanerogams and small animals: a new species of shrew has been described very recently (see Lapini *et al.*, 2001). The lichen flora is, on the contrary, rather trivial and of scarce interest, mainly because most of the woods are treated as coppices (Gambera & Tretiach, 2003). For their overall environmental interest, the extension of these woods should absolutely be preserved, and possibly widened. Also their management should be modified from coppice to high forest in order to increase the number of old trees.

**Sclerococcum griseosporodochium** Etayo

Nova Hedwigia 61: 193, 1995.

**Specimens studied** – Friuli, Natural Regional Park of the Julian pre-Alps, road from Resia to Ucea, below sella Carnizza, on a sterile epilithic thallus with *Trentepohlia*, c. 920 m, 26.06.02, *leg. et det.* M. Tretiach (TSB 35552). *Ibid.*, on an epiphytic thallus with *Trentepohlia*, *leg.* M. Tretiach, *det.* V. Calatayud (hb. V. Calatayud).

**Description** – Conidiomata sporodochial, slightly convex to hemispherical, bluish-grey, dispersed on the thallus of the host. Conidia arising in chains, adherent in masses forming multicellular propagules, irregular in shape, with individual cells distoseptate, thick-walled, subglobose to ellipsoidal, brown, I-; walls ornamented and covered by calcite crystals. These characters accord perfectly with the exhaustive description given by Etayo (1995).

**Remarks** – The two samples were collected in a dense beech forest of Mt. Musi, the area with the heaviest precipitation in Italy (3500-4000 mm per year). They occurred on two unidentified thalli with *Trentepohlia*. The thallus on rock is endolithic, and might belong to a species of *Acrocordia* or *Opegrapha*, both of which were observed on the same rock. The epiphytic one, occurring on a moss tussock at the base of a trunk, might belong to *Strigula affinis*, a species which is quite abundant in the area. In both cases the thalli had only sporodochia, and no other reproductive structures were present. I agree with Etayo (1995) that this lichenicolous fungus seems to live as an autonomous lichen.

***Thelotrema suecicum*** (H.Magn.) P. James

Lichenologist 9: 186 (1977). Basion.: *Ocellularia suecica* H. Magn., Botaniska Notiser 1937: 125 (1937).

**Specimens studied** – Friuli, Carnic Alps, Lumiei valley, left bank of Rio Storto, c. 1100 m, on *Fagus sylvatica*, 04.11.01, leg. et det. M. Tretiach (TSB 35535). *Ibid.*, bosco Flobia, above Rio Storto, c. 1150 m, on *Picea*, 13.09.1991, leg. M. Tretiach, rev. M. Tretiach & P. Crisafulli (TSB 15366). *Ibid.*, above the Lumiei valley, toward Passo Pura, 1000 m on *Fagus sylvatica*, 09.08.981, leg. R. De Faveri & P.L. Nimis, rev. M. Tretiach & P. Crisafulli (TSB 1748).

**Description** – Thallus rather thin, ± continuous, smooth to warted or rugulose, without a prothallus, pale grey or greenish grey, epiphloeodal, with *Trentepohlia*. Ascomata apothecia, immersed in ± hemispherical warts, up to 0.6-0.7 mm diam., urceolate, with ostiolar opening up to 0.35(-0.50) mm; thalline exciple entire; true exciple free, distinctly visible through the opening; apothecial disc visible, dark, slightly pruinose. Hamathecium of filamentous, unbranched, septate paraphyses; periphysoids lining the upper inner surface of the true exciple. Asci 8-spored, subcylindrical, I-. Ascospores colourless, septate, with (7-) 8-11 transverse septa, ellipsoid to ± elongate-fusiform, 32-38-42 (-50) × 4.0-6.0-8.0 (-10.0) μm, ratio 5.1-6.7-8.3 (9.5) (n= 32).

Thallus Pd-, K-, KC-, C-; no lichen substances detected by TLC.

**Remarks** – This species, known from Europe, North and South America (Purvis *et al.*, 1995), is rather frequent in Scandinavia, but was apparently absent from the Alpine regions (Purvis *et al.*, 1995). A few years ago it was reported for the first time from Slovenia (Hočevar *et al.*, 1995) and, although initially considered doubtful (Mayrhofer, 1996: 243), the record has been subsequently accepted in the checklist of Slovenia (Suppan *et al.*, 2000). The species, however, had been collected for the first time in the Lumiei valley (TSB 1748, 15366); unfortunately, both specimens were erroneously identified as *T. lepadinum*, although the peculiar spore shape had been sketched on the label of one of the two collections (TSB 15366). In the Lumiei valley *T. suecicum* is restricted to the most humid, cool, shaded recesses of the narrow valley formed by Rio Storto (see note to *B. pontica*). Here the two *Thelotrema* species occur sympatrically, and their identification in the field is problematic, because *T. suecicum* can be easily misidentified for juvenile (or poorly developed) forms of *T. lepadinum*. The two species differ in spore septation (transverse in the former, muriform in the latter), and size, being considerably larger in *T. lepadinum*. According to Purvis *et al.* (1995), the two species would exhibit the same variation in the number of spores per ascus [(2-)4-6(-8)], but in the TSB collections *T. suecicum* regularly has 8-spored asci.

**Species new to single Italian regions*****Chaenothecopsis subparoica* (Nyl.) Tibell**

Tuscany, Mt. Amiata, Abbadia S. Salvatore, above Acquapassante, c. 1200 m, trachytic outcrops shaded by chestnuts, on *Haematomma ochroleucum* var. *ochroleucum* [sic], 08.04.02, *leg. et det.* M. Tretiach (TSB 35034, 35553); *ibid.*, on *Tephromela grumosa* (TSB 35033, 35554).

**Remarks** – The species, characterised by uniseptate spores and short-stalked or very short-stalked, black, K- apothecia, was considered a parasite restricted to *Haematomma ochroleucum* v. *porphyrium* (Tibell & Ryman, 1995), but it was recently found also on *Enterographa zonata* (Coste, 1999). *Tephromela grumosa* is a new host of this lichenicolous fungus. Duplicates of the sample occurring on *H. ochroleucum* will be distributed in a forthcoming issue of Tibell's *Caliciales exsiccatae*.

***Cyphelium lecideinum* (Nyl.) Trevis.**

Tuscany, Mt. Amiata, Abbadia S. Salvatore, above Acquapassante, c. 1200 m, trachytic outcrops shaded by chestnuts, in a niche, 08.04.02, *leg. et det.* M. Tretiach, *conf.* D. Puntillo (TSB 35035).

**Remarks** – A mild-temperate lichen, found on overhanging siliceous rocks, in shaded situations. This is the second Italian record of an evidently rare species.

***Cystocoleus ebeneus* (Dillwyn) Thwaites**

Friuli, Julian Alps, Tarvisio, Rio Freddo valley, 860 m, on porphyric rocks, 14.06.03, *leg. et det.* M. Tretiach (TSB 36195).

**Remarks** – The species was collected on one of the very few porphyric outcrops known in the western Julian Alps that consist mainly of sedimentary carbonatic rocks.

***Enterographa zonata* (Körb.) Källsten**

Friuli, Carnic Alps, road Ampezzo-Sauris, Lumiei gorge, loc. Pedanca del buso, c. 800 m, on siliceous rocks, 28.07.1999, *leg. et det.* M. Tretiach (TSB 31375).

**Remarks** – Certainly overlooked by modern Italian authors, this species is frequent on siliceous rocks shaded by trees, mainly in the chestnut- and beech-belts.

***Haematomma ochroleucum* (Neck.) J.R. Laundon var. *ochroleucum***

Friuli, Carnic Alps, Lake of Sauris, right bank of Rio Storto, c. 1020 m, in *Abieti-Fagetum*, on *Abies alba*, 30.07.02, *leg. et det.* M. Tretiach (TSB 35544, 36066).

**Remarks** – By TLC the material is chemically identical to an epilithic collection from Mt. Amiata (TSB 34259). This species is rather frequent in the survey area, on bark of *Fagus* and *Abies*.

***Immersaria usbekica* (Hertel) Barbero, Nav.- Ros. & Cl. Roux**

Lazio, Montalto, between Ponte dell'Abbadia and Vulci, c. 60 m, basaltic rocks along the river, 13.12.1997, *leg. et det.* M. Tretiach (TSB 31319). *Ibid.*, loc. Archi di Pontécchio, c. 60 m, basaltic slopes near the river Fiora, 14.12.1997, *leg. et det.* M. Tretiach (TSB 31320). Canino, loc. Tessennano, S-exposed, basaltic rocks, 300 m, 14.12.1997, *leg. et det.* M. Tretiach (TSB 31321).

**Remarks** – The identification of this material was problematic. When collected, the apothecia of all the samples contained only immature asci. Some thalli were kept on a stone wall of the Botanical garden for one month. After that period, characterised by frequent rains, spores were found in most of the apothecia, and the ascus structure typical of *Porpidiaceae* was perfectly visible after staining with iodine.

At the localities in northern Latium, the species was associated with lichens typical of intermediate substrata (*Acarospora microcarpa*, *Aspicilia intermutans*, *Collema rysssoleum*, *Diploschistes actinostomus*, *Pertusaria melanochlora*, *Placopyrenium bucekii*, *Tephromela atra*, etc.). *Immersaria usbekica* has a broad tolerance for the pH of the substratum, being known from limestone (Hertel, 1977; Esnault & Roux, 1987) and base-rich siliceous rocks (Nimis & Tretiach, 1999). The shift of substratum, from siliceous to calcareous rocks, is linked to an increase in aridity, as observed in some other European lichens with broad ecological requirements (Salvadori & Tretiach, 2002).

The citation of *Amygdalaria consentiens* by Aprile (1980) from Vesuvio probably should be referred here; the specimen, however, could not be traced (Aprile, *in litt.*).

**“*Lecanactis*” *latebrarum* (Ach.) Arnold**

Friuli, Carnic Alps, road Ampezzo-Sauris, Lumiei gorge, loc. Pedanca del Buso, 800 m, siliceous rocks, 04.11.02, *leg. et det.* M. Tretiach (TSB 36067, 36068).

**Remarks** – This is the second Italian citation for a species whose systematic position is unclear (Egea & Torrente, 1994). A clarification might result from a study on the anatomy of pycnidia, which have been observed for the first time in this rich collection.

***Lopadium disciforme* (Flot.) Kullh.**

Friuli, Carnic Alps, Lake of Sauris, Bosco della Stua, 970 m, on *Abies alba*, 04.11.02, *leg. et det.* M. Tretiach (TSB 36064).

**Remarks** – This species, recently reported from the nearby Dolomites (Nascimbene, 2003) and from Val Noana in South Tyrol (Nascimbene, *in litt.*), is evidently very rare in the area of the lake of Sauris. Only a poorly developed thallus with a few apothecia was found on an old tree occurring near the shore.

***Naetrocymbe saxicola* (A.Massal.) R. C. Harris**

Friuli, Carnic Alps, northern slope of Mt. Tinisa, “T.Weiss” trail, c. 1850 m, calcareous rocks, with *Polyblastia sepulta*, 28.07.02, *leg. et det.* M. Tretiach (TSB 35546).

**Remarks** – With *Trentepohlia*. On shaded, hard limestone.

***Parmotrema crinitum* (Ach.) M. Choisy**

Trieste Karst, doline of Borgo Grotta Gigante (TS), c. 230 m, on *Quercus petraea*, 21.05.02, *leg. et det.* M. Tretiach (TSB 35081).

**Remarks** – This boreal-montane species, which is typical of cool, moist woods, may exceptionally be found, as this is the case, also in the submediterranean belt. The large doline of Borgo Grotta, exhaustively studied by Carvalho [1996; but see also Tretiach (1992), Tretiach & Carvalho (1994)], hosts a number of interesting lichen species. *Parmotrema crinitum* is evidently rare here: only a single, but quite large thallus was occasionally found at the base of a stunted trunk of an old oak.

***Peltula euploca*** (Ach.) Poelt

Emilia-Romagna, Castrocaro Terme (FO), Terra del Sole, 60 m, on the medieval walls, on brick, 2002, *leg. et det.* M. Tretiach (TSB 36063).

**Remarks** – A relatively common species, which surprisingly was not reported before from Romagna; the specimen was collected during a survey on the biodeterioration of the wall surfaces.

***Polyblastia sepulta*** A. Massal.

Friuli, Carnic Alps, northern slope of Mt. Tinisa, “T.Weiss” trail, c. 1850 m, calcareous rocks, 28.07.02, *leg. et det.* M. Tretiach (TSB 35546).

**Remarks** – A species of hard, compact carboniferous rocks, characterised by immersed perithecia without involucrellum, I+ light blue reaction of the hymenium, and large, submuriform spores.

***Porina borrieri*** (Trevis.) D. Hawksw. & P. James

Friuli, Carnic Alps, Lake of Sauris, road from the dam to Passo Pura, Rio Storto gorge, c. 1020 m, on *Fagus*, 30.07.02, *leg. et det.* M. Tretiach (TSB 35545).

**Remarks** – In a cool, moist *Abieti-Fagetum*; certainly not common.

***Porina lectissima*** (Fr.) Zahlbr.

Friuli, Carnic Alps, road Ampezzo-Sauris, loc. Pedanca del buso, c. 800 m, on siliceous rock, 28.07.1999, *leg. et det.* M. Tretiach (TSB 31369). Julian Alps, Tarvisio, Rio Freddo valley, 860 m, 14.06.03, *leg. et det.* M. Tretiach (TSB 36070).

**Remarks** – Locally common on deeply shaded siliceous rocks.

***Psilolechia lucida*** (Ach.) M. Choisy

Friuli, Julian Alps, Tarvisio, Rio Freddo valley, 860 m, 14.06.03, *leg. et det.* M. Tretiach (TSB 36065).

**Remarks** – In underhangs of porphyric rocks protected from rain, not common. The siliceous outcrops of Rio Freddo certainly deserve further attention: they were visited during a short survey devoted to collect material for a revision of Italian leprarioid lichens, and several interesting species might have been missed.

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