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Abstract

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55 species are reported new to Greece, 43 new to the Greek mainland and 172 new to one or more of the Greek provinces. A considerable proportion of the newly reported lichens are hitherto known to have a Central European distribution. For these lichens the new records represent significant range extensions.

Additional key words: lichen diversity, central European lichens, Mediterranean-montane lichens, Mediterranean region

Introduction

Greece with its varied topography and geology, and with vegetation types ranging from Central European to Mediterranean, has the potential for a rich lichen flora with a wide diversity of lichen communities. The current knowledge of the lichen flora is far from exhaustive and the knowledge of lichen communities is almost non-existent. A recent checklist of Kriti comprises 440 taxa (Grube & al. 2001), to which were added a further 102 taxa by Spribille & al. (2006), 39 taxa by Christensen & Svane (2007) and 4 taxa by Christensen (2007). In only three papers the number of lichens known from Kriti has thus been enlarged by one third, which exemplifies the present state of lichenological knowledge for most parts of Greece.

A lichen checklist of the whole of Greece is currently under preparation (Abbott unpubl., pers. comm.), which provides distributional data referring to the provinces (Ipiros, Makedhonia, Trachia, etc.). Though established as political entities, the Greek provinces are meaningful as geographical entities in a checklist as their boundaries follow mountain ranges, large rivers and other obstacles to traffic in earlier times. For example, Ipiros is the landscape west of the Pindos Range, Makedhonia and Trachia are on the east side of the Pindos range, separated by Mt Olimbos and other land-

scape elements. The present paper is intended as a contribution to this checklist, providing reports on species new to Greece, to its mainland or to particular provinces; further 4 records are regarded as noteworthy.

When the lichen herbarium of Aarhus University (AAU) was transferred to the Botanical Museum of Copenhagen (C) the filing process made it possible to separate the Greek material for study. Material from the Greek mainland, comprising 366 taxa, constitutes the basis for this paper, 274 of which are reported below; 55(15 %) are new to Greece and 43(12 %) are new to its mainland; together 27 % of the collected lichens have not previously been reported from the mainland of Greece. A surprisingly high number of common and widespread species are included, with 172 taxa new to one or more of the provinces (32 for Makedhonia, 75 for Ipiros, 100 for Thessalia, 1 for Sterea Ellada and 1 for Peloponnisos).

Among the species reported new to Greece or its mainland, a high proportion has Central European distributions or northern affinities (occurring in the Alps or extending to Fennoscandia). Many of the collecting sites are located in the Pindos range or other mountains of central and northern Greece (Makedhonia and Ipiros) or of the Pilion peninsula (nomos Magnisia of Thessalia).

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These areas are situated within the Central European climate region, which extends far south through the central montane part of the Greek mainland, reaching central Sterea Ellada (Polunin 1980). Central European vegetation types also extend southwards through the mountains of the Balkans to central Greece; for example, Central European *Fagus*, *Fagus-Abies* and *Pinus nigra* woodlands dominate the montane belt of the Pindos range and the higher mountains of the Pilion peninsula (Horvat & al. 1974; Dafis 1975; Polunin 1980). Accordingly, a large number of Central European vascular plants have their southern limit in Greece (Schuler 2004).

In view of the climate and vegetation conditions and the state of floristic research in mainland Greece, it is not surprising that quite a few of the reports presented below represent considerable southern range extensions of lichens with Central European distribution.

Material and methods

With few exceptions as stated, the material was collected by S. Svane during field trips in 1976, 1983 and 1991, and by P. Frost-Olsen in 1981 (localities 15-18, 22, 26-27 and 29, see below). The collection or reference numbers of S. Svane identify the specimens. Initially the specimens were deposited in the lichen herbarium of Aarhus University (AAU), but recently they have been transferred to the Botanical Museum of Copenhagen (C).

The nomenclature follows Abbott (unpubl. checklist), except for the *Lecanora dispersa* group (Śliwa 2007), the parmelioid lichens (Hawksworth & al. 2008) and the genus *Xanthomendoza* (Søchting & al. 2002).

The distribution data were compared with Abbott (unpubl. checklist) and the papers cited in Christensen (1989) not yet included in Abbott (unpubl. checklist). In the species list a double asterisk (**) denotes records new to Greece and a single asterisk (*) such new to the Greek mainland. A few of the taxa designated as new to the Greek mainland were already collected from Peloponnisos by B. F. M. Abbott, but yet not published; these are indicated by "A. Pel". Whenever specimens were labelled with names other than those in current use, these synonyms are listed in the species list.

The specimens collected originate from the 46 localities given below. The locality numbers are given in the "List of taxa" in brackets, preceding the corresponding collection numbers.

Makedhonia

1. Nomos Kavala: 3 km E of Podochori on the road from Eleftheroupoli to Amphipoli, grazed macchie with *Quercus ilex* and *Juniperus*, boulders, 280 m, 6.7.1991.
2. Nomos Serrai: N of Serras, Mt Laila, near the mountain refuge, *Pinus sylvestris* forest, bedrock sili-
ceous, 1400-1500 m, 9.7.1973, leg. K. H. Rechinger (Iter Graecum XVIII).
3. Nomos Thessaloniki/Chalkidiki: 4 km N of Marathousa on the road from Apolonia to Geroplatanos, hills along a river, macchie, 120 m, 2.7.1991.
4. Nomos Chalkidiki: Mt Holomondas 4 km E of Taxiarchis on the road from Arnea to Paleokastro, 800 m, 6.7.1991.
5. Nomos Chalkidiki: 4 km S of Polygyros on the road to Gerakini, heavily grazed macchie with *Quercus ilex* and *Juniperus*, 470 m, 6.7.1991.
6. Nomos Chalkidiki: 2 km E of Neochori on the road from Stratoni to Arnea, deciduous forest with *Fagus*, *Castanea* and *Platanus*, the floor covered with *Erica*, 520-550 m, 6.7.1991.
7. Nomos Chalkidiki: Kassandra peninsula, by the main road near the southern exit to Mende, hills along a riverbed, macchie, 10 m, 3.7.1991.
8. Nomos Chalkidiki: Sithonia peninsula, 2 km NW of Vourvourou, at the shore, serpentine and sandstone rocks in part covered with thin layer of humus, 30 m, 3.7.1991.
9. Nomos Florina: 1 km E of on the road from Florina to lake Prespa, 1400 m, 26.6.1991.
10. Nomos Florina: 2 km W of Pisoderi on the road from Florina to lake Prespa, 1270 m, 26.6.1991.
11. Nomos Kastoria: 2 km N of Gavros on the road from Kastoria to Kotas, *Carpinus-Quercus cerris* forest on calcareous ground, 830 m, 26.6.1991.
12. Nomos Kozani: A pass NE of Pentalofos between Morfi and Eptochori, *Pinus nigra-Abies* forest, 1400 m, 27.6.1991.
13. Nomos Kozani: 2 km E of Pentalofos between Morfi and Eptochori, 960 m, 27.6.1991.
14. Nomos Pella: By the road to Aghios Dimitrios, 1 km S of the main road from Edessa to Florina, 13 km W of Edessa, heavily grazed pasture with boulders of serpentine and bushes of *Quercus* and *Carpinus*, 580 m, 25.6.1991.
15. Nomos Kastoria: Vernon Mts, hills SE of Vyssinea, dry, sloping pastures in *Fagus* forest, 14.7.1981.
16. Nomos Kastoria: Vernon Mts S of the pass of the road Kastoria-Amyndaeon, 2 km S of the village Klisura, wet banks in dense *Fagus* wood, about 1250 m, 15.7.1981.
17. Nomos Kastoria: Vernon Mts, immediately W of the pass of the road Kastoria-Trigonon-Florina, 16.7.1981.
18. Nomos Kastoria: Vernon Mts road Kastoria-Erosopije, about 3 km S of the summit, pasture along stream in *Fagus* forest, heavily grazed, 1540 m, 14.7.1981.
19. Nomos Pieria: 2 km N of Aghios Dimitri on the main road from Katerini to Ellassona, heavily grazed forest with *Carpinus*, *Quercus cerris* and *Acer* sp., 700 m, 4.7.1991.

20. Nomos Pieria: Mt Olimbos, by Aghia Dionisiou above Litochoro, on deciduous bushes and limestone, 400 m, 4.7.1991.

Ipiros

21. Nomos Ioannina: 9 km E of Konitsa on the road to Elefthero, *Abies* forest, 1360 m, 27.6.1991.
 22. Nomos Ioannina: N of Ioannina, the Asphaka-Monodendri road, 1 km SW of Monodendri, mixed deciduous forest with *Quercus*, *Acer*, *Corylus*, etc., very rich in epiphytic lichens, 850 m, 9.7.1981.
 23. Nomos Ioannina: 40 km N of Ioannina, by the village of Monodendri, deciduous bushes on limestone, 1050 m, 27.6.1991.
 24. Nomos Ioannina: SW of the town of Ioannina, Dodoni, at the ruins, 670 m, 28.6.1991.
 25. Nomos Ioannina: SW of the town of Ioannina, along the road to Dodoni, 6 km from the main road Ioannina to Arta, limestone and deciduous bushes, 690 m, 28.6.1991.
 26. Nomos Ioannina: Ioannina-Plaka road, 4 km S of Lazaina, dry pasture-like areas in *Quercus coccifera* scrub, about 800 m, 5.7.1981.
 27. Nomos Ioannina: Ioannina-Plaka road, 6 km S of Lazaina (along the road), S-facing slopes with *Quercus coccifera*, heavily grazed, about 650 m, 4.7.1981.
 28. Nomos Ioannina: 5 km E of Metsovo, by the main road, heavily grazed *Fagus* forest on calcareous sandstone, 1410 m, 28.6.1991.
 29. Nomos Ioannina: About 11 km N of Katara pass (on the road Ioannina-Trikala), along the road to Milea, dry meadow in opening in *Fagus* forest and very wet sloping area in *Fagus-Pinus* forests, 1350-1400 m, 10.7.1981.
 30. Nomos Ioannina: E of Metsovo, 1 km W of the pass Afhin Kataras, hills with bushes and serpentine boulders, 1740 m, 28.6.1991.

Thessalia

31. Nomos Trikala: Meteora, at Varlaam monastery, 600 m, 29.6.1991.
 32. Nomos Trikala: Meteora, at Roussanou monastery, on vertical shaded rocks of conglomerate, 500 m, 29.6.1991.
 33. Nomos Magnisia: Pilion, Lephocastron, rocks by the church, hills with *Olea europaea* and scrubs SE of the village, and ravine E of the village, 30-100 m, 28.6.1983, 29.6.1983, 1.7.1983 & 10.7.1983.
 34. Nomos Magnisia: Pilion, c. 2 km N of Lephocastron on the old road to Aphisos, by the shore and in *Olea europaea* grove along the shore, 7.7.1983 & 10.7.1983.
 35. Nomos Magnisia: Pilion, hills along the road from Lephocastron to Argalasti, on *Olea europaea*, 50-200 m, 5.7.1983.

36. Nomos Magnisia: Pilion, Lephocastron, by the shore S of the village, sea level, 6.7.1983.
 37. Nomos Magnisia: Pilion, along the shore from Lephocastron to Aphisos (Afissos), in *Olea europaea* grove, 7.7.1983.
 38. Nomos Magnisia: Pilion, Rodjas-to-Réma, on the old road from Lephocastron to Argalasti, S of the Turkish bridge, 200-250 m, 16.7.1983.
 39. Nomos Magnisia: Pilion, 5 km S of Tsangaradha, grassland with boulders and old *Castanea* trees, 450 m, 30.6.1991.
 40. Nomos Magnisia: Pilion, Tsangaradha, on wayside trees, 450 m, 30.6.1991.
 41. Nomos Magnisia: Pilion, 5 km S of Portaria, *Castanea* and *Platanus* trees, 900 m, 30.6.1991.
 42. Nomos Magnisia: Pilion, Panagia E of Kalamos, 3.7.1983.

Sterea Ellada

43. Nomos Fokis: The ruins of Delphi, by the rivulet, 12.4.1976.
 44. Attika: The church at Daphni NW of Athina, on tile, 15.4.1976.
 45. Attika: Athina, Botanical Garden, 21.7.1983.

Peloponnisos

46. Nomos Korinthia: Antique Korinth, on boulders in the ruins, 10.6.1976.

List of taxa

- ***Acarospora badiofusca* (Nyl.) Th. Fr. – (14) 8568 C. – This species of alpine or subalpine habitats in Europe (Clauzade & Roux 1985) is here found in a pastoral clearing in the sub-Mediterranean zone of the Pindos range. The variety *lepidioides* Vain. is known from the island of Lemnos (Szatala 1943).
Acarospora fuscata (Schr.) Th. Fr. – (8) 8732 B; (14) 8568 B; (30) 8668 B. – New to Ipiros.
***Acarospora reagens* Zahlbr. – On vertical shaded rocks of conglomerate. (32) 8686 A.
Acarospora veronensis A. Massal. – On *Populus*. (9) 8583 A. – New to Makedhonia.
Acrocordia gemmata (Ach.) A. Massal. – (21) 8622 C. – New to Ipiros.
Amandinea punctata (Hoffm.) Coppins & Scheid. – On *Populus* and *Thymus* sp. (8) 8728 A; (9) 8583 E; (11) 8589 C; (14) 8569 B; (36) 5773-3. – New to Thessalia.
***Arthonia didyma* Körb. – (21) 8634 A.
Arthonia dispersa (Schr.) Nyl. – (38) 5825-6. – New to Thessalia.
***Arthonia exilis* auct. – On *Castanea*. (13) 8604 B.
**Arthonia galactites* (DC.) Duf. – (39) 8707 C.
**Arthonia radiata* (Pers.) Ach. – On *Carpinus* and *Castanea*. (10) 8587 C; (13) 8605 B; (14) 8556 B; (19) 8747 A; (21) 8634 B; (28) 8655 C.

- Arthopyrenia punctiformis* A. Massal. – On *Castanea* and *Quercus ilex*. (13) 8605 A; (35) 5751-4. – New to Makedhonia and Thessalia.
- Aspicilia caesiocinerea* (Nyl. ex Malbr.) Arnold – On stone walls and rock outcrops. (19) 8748 C; (28) 8656 F; (30) 8669 C, 8671 B; (33) 5755-4, 5760-2; (42) 5731-5. – New to Ipiros and Thessalia.
- Aspicilia calcarea* var. *reagens* Zahlbr. – On vertical shaded rocks of conglomerate. (32) 8685 A. – New to Thessalia.
- Aspicilia cinerea* (L.) Körb. – On flat rocks of conglomerate and other rock outcrops. (5) 8779 C; (14) 8571 C; (30) 8676 C; (31) 8678 E; (39) 8697 A, 8698 A. – New to Ipiros and Thessalia.
- Aspicilia contorta* subsp. *hoffmanniana* S. Ekman & Fröberg – On stone walls and rock outcrops. (19) 8749 D; (20) 8756 B; (25) 8646 D; (33) 5760-1. – New to Ipiros and Thessalia.
- Aspicilia coronata* (A. Massal.) Anzi – Syn.: *A. laurensii* B. de Lesd. – (23) 8638 A; (33) 5724-1; (38) 5819-8. – New to Ipiros and Thessalia.
- **Aspicilia cupreoglaucula* B. de Lesd. – (8) 8724 A, 8726 B; (39) 8698 B. – A. Pel.
- Aspicilia intermutans* (Nyl.) Arnold – (14) 8566 B; (28) 8657 C. – New to Ipiros.
- ***Bacidia arceutina* (Ach.) Arnold – (21) 8628 B; (38) 5821-4.
- ***Bacidia populorum* (A. Massal.) Trevis. – Syn.: *B. acclinis* (Flot.) Zahlbr. – On *Quercus ilex* and on *Arbutus*. (35) 5751-1; (38) 5825-8.
- ***Biatorella conspurcans* Norm. – On *Olea europaea*. (33) 5720-5. – Known from Central and N Europe (Clauzade & Roux 1985).
- Bilimbia sabuletorum* (Schreb.) Arnold – Syn.: *Mycobilimbia sabuletorum* (Schreb.) Lettau – (20) 8753 E; (33) 5723-2. – New to Thessalia.
- Buellia badia* (Fr.) A. Massal. – (14) 8569 A. – New to Makedhonia.
- ***Buellia disciformis* f. *microspora* (Vain.) Zahlbr. – (22) 3708-16.
- **Buellia dispersa* A. Massal. – Syn.: *B. tumida* (A. Massal.) Bagl. – (38) 5819-6.
- Caloplaca alociza* (Massal.) Migula – (36) 5772-3. – New to Thessalia.
- Caloplaca arenaria* (Pers.) Müll. Arg. – On stone walls and rock outcrops (8) 8725A; (14) 8565 D; (33) 5759-2. – New to Makedhonia.
- Caloplaca biatorina* (A. Massal.) J. Steiner – (14) 8567 A. – New to Makedhonia.
- **Caloplaca cerinella* (Nyl.) Flagey – (14) 8559 C; (25) 8651 A. – A. Pel.
- **Caloplaca chrysodeta* (Vain. ex Räsänen) Dombr. – (20) 8755 A.
- ***Caloplaca cinnamomea* (Th. Fr.) Oliv. – (30) 8665 A. – In Europe it occurs in the alpine zone and the colder regions (Clauzade & Roux 1985), which is in good agreement with the present record on the highest pass (1740 m) of the Pindos range.
- Caloplaca circumalbata* var. *candida* (Stiz.) Wunder – On a stone wall. (33) 5753-4. – New to Thessalia.
- Caloplaca citrina* (Hoffm.) Th. Fr. – On vertical shaded rocks of conglomerate. (32) 8682 B. – New to Thessalia.
- Caloplaca crenularia* (With.) J. R. Laundon – On calcareous sandstone and other rock outcrops. (14) 8569 D; (30) 8671 A; (33) 5759-1, 5759-2, 5759-3, 5759-4; (38) 5819-7; (42) 5731-2. – New to Ipiros.
- Caloplaca dalmatica* (A. Massal.) H. Olivier – Syn.: *C. velana* (A. Massal.) Du Rietz, incl. *C. schaereri* (Flörke) Zahlbr. – On limestone. (20) 8756 C; (33) 5753-5; (36) 5797-5. – New to Thessalia.
- **Caloplaca epithallina* Lyngé – (14) 8568 A.
- Caloplaca flavescens* (Huds.) J. R. Laundon – On vertical shaded rocks of conglomerate and other rock outcrops. (20) 8755 C; (32) 8687 C; (41) 8692 B. – New to Makedhonia and Thessalia.
- Caloplaca haematites* (Saint-Amans) Zwackh – On *Pyrus communis* and other trees (14) 8560 A; (19) 8742 D; (25) 8650 E; (33) 5721-3; (35) 5763-6; (41) 8692 A. – New to Thessalia.
- Caloplaca holocarpa* (Hoffm. ex Ach.) A. E. Wade – (8) 8727 A; (12) 8621 A; (33) 5696-3, 5721-3. – New to Thessalia.
- ***Caloplaca insularis* Poelt – Parasitic on *Aspicilia caesiocinerea* on a dry stone wall. (33) 5748-4.
- Caloplaca lactea* (A. Massal.) Zahlbr. – (20) 8756 D; (24) 8642 A. – New to Makedhonia and Ipiros.
- ***Caloplaca ligustica* B. de Lesd. – (8) 8725 B. – Known from the W Mediterranean region (Italy to Spain) (Clauzade & Roux 1985).
- **Caloplaca marina* (Wedd.) Zahlbr. – (36) 5797-2.
- **Caloplaca obscurella* (Körb.) Th. Fr. – On wayside trees. (40) 8695 A. – A. Pel.
- **Caloplaca pollinii* (A. Massal.) Jatta – (12) 8619 A; (22) 3708-12.
- Caloplaca pyracea* (Ach.) Th. Fr. – On *Populus*, *Castanea*, *Quercus ilex* and *Pyrus communis*. (9) 8582 B; (13) 8606 A; (21) 8636 C; (35) 5750-5, 5763-5. – We keep the epiphytic specimens (*C. pyracea*) taxonomically separate from the epilithic ones (*C. holocarpa*). New to Thessalia.
- **Caloplaca sarcopisoides* (Körb.) Zahlbr. – (33) 5698-4, 5721-2. – A. Pel.
- Caloplaca* cf. *sarcopisoides* (Körb.) Zahlbr. – On a twig. (14) 8556 C. – A specimen with dark grey rather thick thallus and apothecia with black discs. Using Magnusson (1950), the specimen keys out as *C. suspiciosa* (Nyl.) H. Magn., from which it differs mainly in the thicker thallus. Specimens of *Caloplaca* with black discs are not uncommon in Greece but do not key out easily using current floras (Christensen 1994a, 1994b; Christensen &

- Svane 2007). It seems that the subgenus *Pyrenodesmia* is in need of a revision.
- ***Caloplaca thallincola* (Wedd.) Du Rietz – (36) 5797-1.
- Caloplaca xantholyta* (Nyl.) Jatta – On vertical shaded rocks of conglomerate. (32) 8681 B. – New to Thessalia.
- ***Candelaria concolor* (Dicks.) Stein – On flat rocks of conglomerate. (31) 8680 A.
- ***Candelariella lutella* (Vain.) Räsänen – (22) 3708-14. – Known from N Europe and the Alps (Poelt & Vězda 1977). This find in the central Pindos range is thus in agreement with the habitat demands of the species.
- Candelariella xanthostigma* (Ach.) Lettau – On *Quercus cerris* and *Olea europaea*. (4) 8774 D; (12): 8621 C; (14) 8558 C; (20) 8751 C; (33) 5700-1; (41) 8694 B. – New to Thessalia.
- Carbonea vitellinaria* (Nyl.) Hertel – Parasitic on *Candelariella vitellina*. (30) 8673 A. – New to Ipiros.
- Catillaria lenticularis* (Ach.) Th. Fr. – On vertical shaded rocks of conglomerate. (32) 8682 A. – New to Thessalia.
- Catillaria nigroclavata* (Nyl.) Schuler – On *Quercus cerris*, *Q. ilex*, *Olea europaea* and *Arbutus unedo*. (4) 8770 C; (11) 8597 A; (14) 8555 A; (19) 8747 D; (20) 8751 E; (22) 3708-18; (25) 8651 C; (33) 5698-9, 5720-3; (35) 5751-3; (38) 5825-12. – New to Ipiros and Thessalia.
- Cetraria aculeata* (Schreb.) Fr. – On soil. (3) 8714 A; (5) 8781 C; (26) 3637. – New to Ipiros.
- **Cladonia cervicornis* subsp. *verticillata* (Hoffm.) Ahti – (8) 8734 A.
- ***Cladonia ciliata* Stirt. var. *ciliata* – (4) 8772 A. – This find at 800 m altitude in the Chalkidiki peninsula is an eastward extension of its range, which has its centre in the oceanic areas of W Europe (Ahti 1977). The altitude of the locality results in a more humid climate than that of the Chalkidiki peninsula in general (773 mm vs. 125-250 mm annually, see Theodoropoulos 1991, Polunin 1980).
- ***Cladonia ciliata* var. *tenuis* (Flörke) Ahti – (8) 8733 A. – Reaching former Yugoslavia (Ahti 1977), this variety is more common and extends further eastward in Europe than var. *ciliata*. It is here found in the Mediterranean climate zone of the lowland of the Chalkidiki peninsula.
- Cladonia coniocraea* (Flörke) Spreng. – (21) 8624 B. – New to Ipiros.
- Cladonia fimbriata* (L.) Fr. – On soil. (5) 8781 D; (12) 8620 B; (13) 8613 C; (18) 3941, 3941-2; (19) 8738 E; (21) 8623 A; (28) 8655 F. – New to Ipiros.
- Cladonia firma* (Nyl.) Nyl. – (3) 8714 D; (5): 8781 A; (8) 8734 B. – New to Makedhonia.
- Cladonia furcata* subsp. *subrangiformis* (Sandst.) Pišut – (26) 3638. – New to Ipiros.
- **Cladonia glauca* Flörke – On *Quercus cerris*. (4) 8772 B; (29) 3814-2.
- **Cladonia humilis* (With.) J. R. Laundon – (3) 8715 C; (5): 8780 D; (8) 8735 A; (15) 3933; (33) 5680-1, 5713-1.
- **Cladonia mediterranea* P. A. Duvign. & Abbayes – (8) 8735 B.
- Cladonia ochrochlora* Flörke – (29) 3814-1. – New to Ipiros.
- ***Cladonia scabriuscula* (Delise) Leight. – (4) 8772 D, 8772 E. – The same remarks as for *Cladonia ciliata* var. *ciliata* may apply for this oceanic species.
- Cladonia symphyocarpa* (Ach.) Fr. – On soil. (5) 8781 B; (33) 5694 2, 5699-3. – New to Thessalia.
- Clauzadea metzleri* (Körb.) D. Hawksw. – (28) 8659 B. – New to Ipiros.
- Clauzadea monticola* (Schaer.) Hafellner & Bellem. – (25) 8648 B; (36) 5705-3. – New to Ipiros and Thessalia.
- Collema auriforme* (With.) Coppins & J. R. Laundon – (28) 8658 D; (33) 5713-2, 5795-4; (36) 5771-1. – New to Ipiros and Thessalia.
- Collema crispum* (Huds.) G. H. Web. – (11) 8598 A; (20) 8753 A; (23) 8639 A; (34) 5779-5. – New to Thessalia.
- Collema occultatum* Bagl. – (33) 5696-2; (35) 5756-2; (41) 8694 A. – New to Thessalia.
- Degelia atlantica* (Degel.) P. M. Jørg. & P. James – On *Castanea*. (13) 8612 A. – New to Makedhonia.
- ***Dimerella lutea* (Dicks.) Trevis. – (33) 5682-3.
- **Diploicia canescens* (Dicks.) A. Massal. – On vertical shaded rocks of conglomerate. (32) 8684 B.
- Diploschistes diacapsis* (Ach.) Lumbsch – Syn.: *D. albescens* Lettau – On rocks and stone walls. (33) 5679-1, 5695-1, 5715-3, 5755-2, 5794-2; (36) 5774-4; (38) 5827-2. – New to Thessalia.
- Diploschistes muscorum* (Scop.) R. Sant. – (8) 8720 A, 8736 A; (30) 8664 A; (33) 5716-1. – New to Makedhonia, Ipiros and Thessalia.
- Diploschistes ocellatus* (Vill.) Norman – (33) 5699-2, 5794-3. – New to Thessalia.
- Diploschistes scruposus* (Schreb.) Norman – On stone walls and rock outcrops. (5) 8779 A; (30) 8674 A; (33) 5755-1; (38) 5819-2. – New to Ipiros and Thessalia.
- **Diplotomma ambiguum* (Ach.) Flagey – (19) 8748 B. – A. Pel.
- Diplotomma epipolium* (Leight.) Szatala – On vertical shaded rocks of conglomerate. (32) 8685 B. – New to Thessalia.
- **Diplotomma populorum* A. Massal. – On *Populus*. (9) 8578 A; (14) 8562 A.
- Diplotomma venustum* (Körb.) Körb. – (25) 8646 C. – New to Ipiros.
- Dirina massiliensis* Durieu & Mont. – On vertical shaded rocks of conglomerate. (32) 8681 A. – New to Thessalia.

- Endocarpon pusillum* Hedw. – On a stone wall. (33) 5762-4. – New to Thessalia.
- Fulgensia fulgens* (Sw.) Elenk. – (20) 8756 A. – New to Makedhonia.
- Fulgensia subbracteata* (Nyl.) Poelt – (33) 5794-1; (35) 5762-3; (36) 5748-1; (38) 5827-1. – New to Thessalia.
- **Gyalecta truncigena* (Ach.) Hepp – (19) 8744 C.
- Haematomma nemetzii* J. Steiner – (39) 8696 A. – New to Thessalia.
- Hyperphyscia adglutinata* (Flörke) Mayrhofer & Poelt – (14) 8555 B; (42) 5730-4. – New to Thessalia.
- ***Lecanactis premnea* (Ach.) Arnold – (21) 8635 B. – This species is distributed in Central and S Europe (Clauzade & Roux 1985).
- Lecania cyrtella* (Ach.) Th. Fr. – (19) 8744 E; (21) 8635 C; (25) 8651 D; (28) 8652 E. – New to Ipiros.
- **Lecania koerberiana* Lahm – On *Quercus ilex*, *Thymus* sp. and *Arbutus unedo*. (14) 8563 A; (33) 5696-8; (35) 5751-2; (36) 5773-4; (38) 5825-4; (41) 8693 A.
- Lecania naegelii* (Hepp) Diederich & P. Boom – On *Castanea* and *Quercus ilex*. (12) 8619 D; (13) 8604 A; (25) 8649 E; (38) 5826-3. – New to Ipiros and Thessalia.
- Lecanora albescens* (Hoffm.) Branth & Rostr. – (36) 5798-3. – New to Thessalia.
- Lecanora allophana* Nyl. – On *Quercus cerris* and *Populus*. (4) 8773 D; (9) 8578 B; (11) 8594 D; (17) 4003; (30) 8663 A; (28) 8654 B. – New to Ipiros.
- Lecanora argentata* (Ach.) Malme – On *Castanea* and other trees. (12) 8607 B; (17) 4001; (22) 3708-3. – New to Ipiros.
- Lecanora bolcana* (Poll.) Poelt – (1) 8759 B; (8) 8731 A; (9) 8583 D; (14) 8570 C. – New to Makedhonia.
- Lecanora campestris* (Schaer.) Hue – (8) 8723 B; (19) 8749 A; (36) 5748-3; (38) 5819-3. – New to Thessalia.
- Lecanora carpinea* (L.) Vain. – On *Quercus cerris*, *Q. ilex*, *Carpinus*, *Castanea*, *Acer* sp. and *Arbutus unedo*. (3) 8712 C; (4) 8775 B; (5) 8777 B; (6) 8765 E; (10) 8587 A; (11) 8597 B; (12) 8607 C; (14) 8561 B; (19) 8746 B; (20) 8752 C; (22) 3708-4; (23) 8640 D; (28) 8654 D; (35) 5750-6; (38) 5825-3; (39) 8706 B; (41) 8692 C. – New to Ipiros.
- **Lecanora cenisia* Ach. – (30) 8667 A.
- Lecanora chlarotera* Nyl. – On *Quercus cerris*, *Q. ilex*, *Pyrus communis* and *Arbutus unedo*. (1) 8758 A; (3) 8712 B; (4) 8773 C; (5) 8777 C; (6) 8761 E; (9) 8587 B; (11) 8597 C; (19) 8746 C; (20) 8752 D; (22) 3708-2; (25) 8649 D; (33) 5698-7, 5720-1; (35) 5752-2, 5763-8; (38) 5821-2, 5825-2; (41) 8693 B. – New to Thessalia.
- Lecanora conferta* (Duby ex Fr.) Grog. – (30) 8667 B; (32): 8683 A. – This specimen looks like *L. albescens*. Part of the specimen has light brown discs without pruina, in other parts it has dark brown discs with white pruina. Intermediate apothecia occur between the two extremes, which resembles fig. 1A and fig. 1B of Fröberg (1997), respectively, except that they all have raised margins. The discs are C+ yellow (*L. albescens* is C-). – New to Ipiros and Thessalia.
- Lecanora crenulata* Hook. – On limestone. (8) 8727 B; (24) 8644 B; (36) 5798-4. – No. 8727 B seems to have all the characteristics of *L. crenulata* (Poelt & Leuckert 1995; Fröberg 1997), except for the substrate, which is schistose acidic rock. – New to Makedhonia and Thessalia.
- Lecanora expallens* Ach. – (20) 8751 D; (33) 5698-5. – New to Makedhonia and Thessalia.
- **Lecanora gangaleoides* Nyl. – (8) 8721 A.
- Lecanora hagenii* (Ach.) Ach. – On *Acer*, *Carpinus*, *Castanea*, *Quercus cerris* and rock outcrops. (3) 8711 B; (9) 8583 B; (12) 8619 C; (19) 8746 D; (25) 8650 D; (41) 8692 E. – New to Thessalia.
- ***Lecanora helicopsis* (Wahlenb. ex Ach.) Ach. – (36) 5798-6. – This species occurs in Central and N Europe (Clauzade & Roux 1985).
- Lecanora horiza* (Ach.) Lindsay – Syn.: *Lecanora sienae* B. de Lesd. – On *Thymus* sp. and deciduous trees (6) 8765 C; (20) 8752 A; (33) 5696-4; (36) 5773-2. – New to Makedhonia and Thessalia.
- ***Lecanora impudens* Degel. – (11) 8597 D. – Occurs in montane areas of Central and N Europe (Poelt & Vězda 1981).
- Lecanora intumescens* (Rebent.) Rabenh. – (28) 8655 A; (39): 8707 A. – New to Ipiros and Thessalia.
- ***Lecanora laatokkaensis* (Räsänen) Poelt – (30) 8670 C. – Occurs scattered on certain rock types (serpentine, amphibolite and schist) in the Mediterranean area (Poelt & Vězda 1977). The bedrock at the Katara pass is serpentine.
- Lecanora leptyroides* (Nyl.) Degel. – (14): 8561 A; (22) 3708-5; (28) 8655 B; (30) 8663 B. – New to Ipiros.
- ***Lecanora persimilis* (Th. Fr.) Nyl. On *Populus* and twigs of *Castanea*, *Fagus*, *Quercus ilex* and *Pyrus communis*. (9) 8582 C; (13) 8606 C; (22) 3708-15; (28) 8654 F; (35) 5752-3, 5763-4. – Distinguished from *L. hagenii* by the apothecial characters: non-pruinose, often glossy disc, non-white margin and clustering of the apothecia (Śliwa 2007).
- Lecanora polytropa* (Ehrh. ex Hoffm.) Rabenh. – (30) 8672 C. – New to Ipiros.
- ***Lecanora ripartii* Lamy sensu Poelt – (8) 8723 A. – The occurrence of this species on non-calcareous rocks in the warm, dry areas of the Mediterranean (Poelt & Vězda 1981) is in good agreement with the conditions at this lowland locality of the Chalkidiki peninsula.
- ***Lecanora rupicola* var. *efflorens* Leuckert & Poelt – Syn.: *L. rupicola* var. *sorediata* (Flotow) Poelt & Vězda, comb. inval. – (30) 8670 B. – This “very rare taxon of uncertain distribution, ecology and taxon-

- omy” (Poelt & Vězda 1981, translated) was found on serpentine rocks under alpine conditions in the High Pindos.
- **Lecanora subrugosa* Nyl. – (14) 8560 C.
Lecanora symmicta (Ach.) Ach. – (21) 8632 B. – New to Ipiros.
- Lecidea atrobrunnea* (Ramond ex Lam. & DC.) Schaer. – (14) 8564 C; (30) 8669 A. – New to Ipiros.
- Lecidea fuscoatra* (L.) Ach. – (8) 8730 A; (14) 8565 A; (33) 5697-1, 5755-5; (38) 5819-5. – New to Thessalia.
- Lecidea lapicida* var. *pantherina* Ach. – (30) 8674 B. – New to Ipiros.
- Lecidea promiscua* Nyl. – (30) 8668 A. – New to Ipiros.
- ***Lecidea tessellata* Flörke – (30) 8677 C. – A. Pel. – Occurs from the montane to the alpine zone (Clauzade & Roux 1985).
- **Lecidella asema* var. *elaeochromoides* (Nyl.) Nimis & Tretiach – Syn.: *L. subincongrua* var. *elaeochromoides* (Nyl.) H. Hertel & Leuckert – On a boulder. (33) 5714-1.
- Lecidella carpathica* Körb. – On stone walls and rock outcrops. (28) 8657 B; (30) 8666 B; (33) 5755-7; (39) 8697 C. – New to Ipiros and Thessalia.
- ***Lecidella elaeochroma* var. *soralifera* (Erichs.) Clauz. & Roux – On *Arbutus unedo* and other shrubs and trees. (6) 8765 D; (38) 5825-1. – A. Pel. – Occurs in the Atlantic areas of NW Europe (Poelt & Vězda 1981).
- ***Lempholemma botryosum* (A. Massal.) Zahlbr. – (32) 8688 B.
- ***Lepraria eburnea* Nyl. – (21) 8622 A.
- ***Lepraria elobata* Tønsberg – (8) 8731 B.
- Lepraria neglecta* (Nyl.) Lettau – (30) 8665 B. – New to Ipiros.
- ***Lepraria* cf. *isidiata* (Llimona) Llimona & Crespo – (8) 8720 B, fumarprotocetraric acid/protocetraric acid and atranorin by TLC. – *L. isidiata*, described in 1973, was recently clarified against related taxa, including *L. nivalis* J. R. Laundon (Crespo & al. 2006). The type of *L. isidiata* contains fumarprotocetraric acid and atranorin (Crespo & al. 2006). In the present circumscription, *L. nivalis* has an array of chemotypes, including one with protocetraric acid and atranorin only (Leuckert & al. 1995). In the Mediterranean area *L. nivalis* specimens have been shown to contain fumarprotocetraric acid, roccellic acid and atranorin as constants and protocetraric acid as occasional (Zedda 2000).
- ***Leproloma cacuminum* (A. Massal.) J. R. Laundon – On flat rocks of conglomerate. (31) 8679 B.
- Leptogium gelatinosum* (With.) J. R. Laundon – (33) 5713-5, 5795-1. – New to Thessalia.
- Leptogium massiliense* Nyl. – On limestone. (24) 8644 A; (36) 5774-3. – New to Thessalia.
- Leptogium plicatile* (Ach.) Leight. – On vertical shaded rocks of conglomerate and on stone walls, (20) 8753 C; (23) 8639 D; (25) 8647 B; (32) 8684 A; (33) 5710-2, 5762-7; (34) 5779-4; (42) 5731-1; (43) 2669-2. – New to Makedhonia, Ipiros and Thessalia.
- **Leptogium subtile* (Schrad.) Torss. – (33) 5719-2.
- Leptogium teretiusculum* (Wallr.) Arnold – (33) 5677-2, 5696-7. – New to Thessalia.
- Lobothallia radiosa* (Hoffm.) Hafellner – On a stone wall and rock outcrops. (11) 8600 B; (25) 8647 C; (33) 5755-3, 5762-5. – New to Thessalia.
- ***Lobothallia praeradiosa* (Nyl.) Hafellner – On a serpentine boulder. (30) 8676 A. – Occurs from SE Europe to the Central Alps (Clauzade & Roux 1985).
- ***Loxospora elatina* (Ach.) A. Massal. – (12) 8618 D. – “Its occurrence is not well known. *L. elatina* is found on bark, mainly of *Abies* and *Picea*, in forests in the boreal zone, in Central European mountains and the Alps, often unrecognised, sometimes found in abundance, especially in places with high humidity” (Poelt & Vězda 1977, translated). The present find in a *Pinus nigra-Abies* woodland in the Pindos range agrees well with the general demands of the species.
- Melanelixia fuliginosa* (Fr. ex Duby) O. Blanco & al. – Syn.: *Melanelia fuliginosa* (Fr. ex Duby) Essl., incl. *Melanelia glabrata* (Lamy) Essl. – On *Carpinus*, *Castanea* & *Olea europaea*. (6) 8763 C; (10) 8584 A; (12) 8602 B; (19) 8740 D; (21) 8630 C; (30) 8661 D; (33) 5699-1, 5711-1; (38) 5817-6; (39) 8696 B, 8704 A; (42) 5730-6. – New to Thessalia.
- Melanelixia glabra* (Schaer.) O. Blanco & al. – Syn.: *Melanelia glabra* (Schaer.) Essl. – On *Quercus cerris*, *Populus*, *Carpinus*, *Castanea* & *Acer* sp. (4) 8767 C; (9) 8577 A; (10) 8585 A; (11) 8590 A; (12) 8618 B; (13) 8601 C; (16) 3962; (19) 8741 A; (22) 3706-2; (23) 8640 C. – New to Thessalia.
- Melanelixia subaurifera* (Nyl.) O. Blanco & al. – Syn.: *Melanelia subaurifera* (Nyl.) Essl. – On *Olea europaea*, *Arbutus unedo* and other trees and bushes (1) 8757 B; (3) 8711 A; (6) 8763 D; (11) 8589 A; (14) 8555 C; (20) 8750 A; (28) 8655 E; (38) 5817-5, 5824-4. – New to Ipiros and Thessalia.
- Melanohalea exasperata* (De Not.) O. Blanco & al. – Syn.: *Melanelia exasperata* (De Not.) Essl. – On *Quercus cerris*, *Populus* and *Castanea*. (4) 8769 A; (9) 8576 A; (13) 8602 C; (22) 3706-3. – New to Ipiros.
- Melaspilea proximella* Nyl. ex Norrlin – On *Pinus pinaster*; (7) 8716 A. – New to Makedhonia.
- ***Mycobilimbia tetramera* (De Not.) Clauzade & al. – (14) 8556 A.
- Nephroma laevigatum* Ach. – On *Castanea* and other trees. (11) 8588 A; (13) 8613 B; (19) 8740 B; (21) 8632 A. – New to Ipiros.
- Ochrolechia androgyna* (Hoffm.) Arnold – On *Castanea* and other trees. (13) 8609 B; (21) 8633 B; (30) 8664 B; (33) 5709-1. – New to Ipiros.

- Ochrolechia balcanica* Vers. – On *Quercus cerris* and other trees. (4) 8775 A; (22) 3708-1. – New to Ipiros.
- Ochrolechia pallescens* (L.) A. Massal. – On *Carpinus*. (10) 8586 B; (39) 8705 A. – New to Makedhonia and Thessalia.
- Ochrolechia parella* (L.) A. Massal. – (8) 8719 B; (39): 8696 C. – New to Thessalia.
- Ochrolechia subviridis* (Høeg) Erichsen – (33): 5709-2. – New to Thessalia.
- Ochrolechia szatalaensis* Vers. – (29) 3830. – New to Ipiros.
- Opegrapha atra* Pers. – (19) 8747 B. – New to Makedhonia.
- Opegrapha varia* Pers. – Syn.: *O. lichenoides* Pers. – On *Quercus ilex*. (38) 5826-3; (42) 5730-8. – New to Thessalia.
- **Pachyphiale carneola* (Ach.) Arnold – (39) 8707 D.
- ***Pachyphiale ophiospora* Lettau – (12) 8620 A. – Occurs in the mountains of Switzerland, former Czechoslovakia and former Yugoslavia (Clauzade & Roux 1985).
- Parmelina pastillifera* (Harm.) Hale – (4) co-occurring with 8768 B; (6) co-occurring with 8763 A; (21) 8630 B; (28) 8653 F; (30): 8661 A. – New to Ipiros.
- Parmelina quercina* (Willd.) Hale – (3) 8713 A; (6) 8763 B; (11) 8589 B; (39) 8704 B; (35) 5763-2; (38) 5817-3; (42) 5730-2. – New to Thessalia.
- Peltigera monticola* Vitik. – (19) 8738 B; (21) 8626 A; (28) 8652 C; (38): 5822-3. – New to Thessalia.
- Peltigera ponojensis* Gyeln. – (27) 3629. – Though not previously reported in floristic papers, there are several records from Greece (Vitikainen 1994: fig. 114).
- Peltigera praetextata* (Flörke ex Sommerf.) Zopf – (19) 8738 C; (21) 8625 A, 8625 B, 8626 A; (30) 8660 D; (38): 5822-1. – New to Thessalia.
- Pertusaria albescens* (Huds.) Choisy & Werner var. *albescens* – On *Quercus cerris*, *Populus*, *Carpinus* and *Castanea*. (4) 8771 C; (9) 8576 C; (10) 8586 A; (12) 8618 C; (13) 8603 B; (19) 8744 B; (21) 8629 D, 8633 A; (30) 8662 C; (33) 5709-5, 5713-4; (35) 5758-1; (39) 8702 C; (41): 8690 D. – New to Thessalia.
- **Pertusaria albescens* (Huds.) Choisy & Werner var. *corallina* auct. – On *Castanea*. (13) 8603 A; (21) 8631 B, 8631 C; (39): 8702 B. – A. Pel.
- Pertusaria amara* (Ach.) Nyl. – On *Castanea* and *Olea europaea*. (3) 8713 C; (6) 8764 D; (13) 8603 C; (38) 5817-2. – New to Thessalia.
- **Pertusaria dealbescens* Erichsen – Syn.: *P. aspergilla* (Ach.) J. R. Laundon – (1) 8759 C; (14): 8566 A.
- Pertusaria coccodes* (Ach.) Nyl. – On *Quercus cerris* and *Castanea*. (4) 8774 A; (13) 8610 A; (21) 8637 C. – New to Ipiros.
- Pertusaria flavida* (DC.) J. R. Laundon – On *Castanea*. (13) 8610 B; (33) 5713-3. – New to Thessalia.
- Pertusaria hemisphaerica* (Flörke) Erichsen – On *Castanea* and other trees. (13) 8609 A; (19) 8744 A; (30) 8662 B; (33) 5682-2; (39) 8703 B. – New to Ipiros and Thessalia.
- Pertusaria hymeneae* (Ach.) Schaer. – Syn.: *P. lecanorodes* Erichsen – (39) 8705 B. – New to Thessalia.
- Pertusaria leucostoma* A. Massal. – (14) 8557 B; (39) 8707 B. – New to Thessalia.
- ***Phaeophyscia cernohorskyi* (Nády.) Essl. – On flat rocks of conglomerate. (31) 8680 D. – Occurs “mainly on rocks, weakly or non-calcareous, generally under warm and dry conditions” (Clauzade & Roux 1985, translated), which agrees well with the conditions in these rock formations of Meteora in the Thessalian plain.
- Phaeophyscia ciliata* (Hoffm.) Moberg – On *Populus* and other trees. (9) 8580 B; (11) 8593 C; (19) 8743 B; (20) 8751 A; (22) 3705-6; (40) 8695 C. – New to Makedhonia, Ipiros and Thessalia.
- **Phaeophyscia hirsuta* (Mereschk.) Essl. – On *Populus*. (9) 8580 A. – A. Pel.
- Phaeophyscia orbicularis* (Necker) Moberg – (19) 8742 C. – New to Makedhonia.
- ***Phaeophyscia poeltii* (Frey) Nimis – (41) 8691 A. – Known from the Alps and the Dalmatian mountains (Clauzade & Roux 1985).
- Phlyctis agelaea* (Ach.) Flotow – (6) 8764 A. – New to Makedhonia.
- Phlyctis argena* (Spreng.) Flotow – On *Quercus cerris* and other trees. (4) 8773 B; (6) 8764 B, 8764 E; (12) 8620 D; (19) 8744 D; (20) 8750 E; (21) 8634 C; (30) 8662 D; (33) 5681-1. – New to Thessalia.
- Physcia adscendens* (Fr.) H. Olivier – (3) 8710 C; (11) 8595 C; (19) 8747 C; (20) 8750 B; (14) 8558 B; (25) 8649 C; (33) 5696-1, 5698-2, 5721-1; (34) 5798-1; (35) 5750-3, 5757-2, 5763-3; (36) 5772-1. – New to Thessalia.
- Physcia aipolia* (Ehrh. ex Humb.) Fűrnr. – On *Quercus cerris*, *Populus*, *Carpinus*, *Castanea* and wayside trees. (4) 8773 A; (9) 8575 B; (10) 8584 B; (11) 8595 A; (12) 8602 D; (16) 3963-2; (19) 8743 A; (22) 3705-4; (28) 8653 B; (39) 8695 D; (41) 8691 C. – New to Ipiros and Thessalia.
- Physcia biziana* (A. Massal.) Zahlbr. – On *Quercus ilex* and other trees. (30) 8662 A; (33) 5717-1, 5732-1, 5796-1; (35) 5756-1, 5757-1 (var. *leptophylla* Vězda); (41) 8691 D; (42) 5730-3; (45) 5829-1. – New to Thessalia and Sterea Ellada.
- **Physcia caesia* (Hoffm.) Fűrnr. – (30) 8663 C. – A. Pel.
- Physcia dubia* (Hoffm.) Lettau – On flat rocks of conglomerate. (31) 8678 D (var. *teretiuscula* (Ach.) Clauz. & Roux). – New to Thessalia.
- Physcia leptalea* (Ach.) DC. – Syn.: *P. semipinnata* (J. F. Gmel.) Moberg – On *Populus*, *Quercus ilex* and

- Arbutus unedo*. (5) 8776 C; (9) 8576 B; (11) 8595 B; (12) 8617 B; (19) 8743 C; (22) 3705-3; (25) 8649 B; (28) 8653 C; (35) 5750-2; (38) 5825-5. – New to Thessalia.
- Physcia stellaris* (L.) Nyl. – (28) 8653 A. – New to Ipiros.
- Physcia tenella* (Scop.) DC. – (33) 5710-1. – New to Thessalia.
- Physconia distorta* (With.) J. R. Laundon – On *Populus*, *Carpinus* and *Castanea*. (9) 8573 B; (10) 8585 C; (11) 8594 A; (12) 8608 C; (19) 8742 B; (21) 8630 A; (22) 3705-5; (41) 8690 B. – New to Thessalia.
- Physconia grisea* (Lam.) Poelt – On flat rocks of conglomerate and rock outcrops. (31) 8680 B; (42) 5730-5. – New to Thessalia.
- Physconia perisidiosa* (Erichsen) Moberg – On *Populus* and *Castanea*. (9) 8573 C; (11) 8590 C; (13) 8608 A; (19) 8742 A; (31) 8680 C; (39) 8701 A; (41) 8691 B. – New to Makedhonia.
- **Placidium lachneum* (Ach.) B. de Lesd. – On soil and on a stone wall. (5) 8780 B; (33) 5759-1; (38): 5819-1.
- **Placynthiella uliginosa* (Schrad.) Coppins & P. James – (13) 8611 A.
- Placynthium nigrum* (Huds.) Gray – On a stone wall and on rock outcrops (28) 8659 E; (33) 5753-1; (36) 5774-5. – New to Ipiros and Thessalia.
- Polyblastia deminuta* Arnold – (23) 8638 B. – New to Ipiros.
- ***Polyblastia helvetica* Th. Fr. – (30) 8665 D. – Known from Scandinavia, the British Isles and the Alps (Clauzade & Roux 1985).
- Polysporina pusilla* (Anzi) – (33) 5723-2. – New to Thessalia.
- Porina aenea* (Wallr.) Zahlbr. – (38) 5826-4. – New to Thessalia.
- Porpidia crustulata* (Ach.) Hertel & Knoph – Syn.: *Huilia crustulata* (Ach.) Hertel – (33) 5724-1, 5799-1; (38): 5819-4. – New to Thessalia.
- Protoblastenia calva* (Dicks.) Zahlbr. – (25) 8647 A; (36) 5773-1. – New to Ipiros and Thessalia.
- Protoparmelia badia* (Hoffm.) Hafellner – (30): 8668 C; (34) 5798-5. – New to Ipiros.
- Psora decipiens* (Hedw.) Hoffm. – On a stone wall. (33) 5753-2. – New to Thessalia.
- ***Pyrrhospora cinnabarina* (Sommerf.) Choisy – (21) 8633 D. – *P. cinnabarina* grows “on acid bark in the boreal to arctic and subalpine to alpine zones” (Poelt & Vězda 1977, as *Protoblastenia cinna-barina* (Sommerf.) Räsänen, translated) which is in good agreement with this find in an *Abies* woodland at 1360 m altitude in the Pindos Range.
- **Ramalina elegans* (Bagl. & Car.) Stizenb. – (22) 3704-6. – Contains sekikaic acid (by TLC). – This species has some similarities with *R. fastigiata* (Arroyo & al. 1995). However, the often subterminal and spurred apothecia and the presence of sekikaic acid distinguish it from *R. fastigiata* (with evernic acid complex). The distance between the present find in Ipiros and the only other Greek record, from Rhodos (Cengia-Sambo 1924), suggest that the species is under-recorded. Probably, records of *R. fastigiata* include specimen of *R. elegans*.
- **Ramalina farinacea* var. *reagens* B. de Lesd. – (22) 3704-3; (26) 3635-1.
- Ramalina fastigiata* (Pers.) Ach. – On *Quercus cerris* and *Q. ilex*; (3) 8709 A; (4) 8766 B; (5) 8776 D; (6) 8762 C; (11) 8592 B; (16) 3965-4; (19) 8745 B; (21) 8627 B; (22) 3704-2; (35) 5749-2. – New to Ipiros and Thessalia.
- Ramalina fraxinea* (L.) Ach. – On *Populus* and other trees. (4) 8771 A; (9) 8575 A; (11) 8592 A; (16) 3965-3; (19) 8745 A; (22) 3704-4. – New to Ipiros.
- Ramalina fraxinea* var. *caliciformis* (Nyl.) Hue – On *Castanea* and other trees. (2) leg. K. H. Rechinger 45384; (6) 8762 A; (12) 8601 A; (21) 8631 A; (22) 3704-5. – New to Ipiros.
- Ramalina pollinaria* (Westr.) Ach. – (30) 8661 C. – New to Ipiros.
- ***Ramonia subsphaeroides* (C. Tav.) Vězda – On *Quercus ilex*. (38) 5826-1. – Known so far from N Portugal only (Clauzade & Roux 1985).
- ***Rhizocarpon badioatrum* (Flörke ex Spreng.) Th. Fr. – (8) 8730 B. – “Widely distributed and often abundant in the cooler parts of Europe” (Poelt & Vězda 1981, translated).
- ***Rhizocarpon disporum* (Nägeli ex Hepp) Müll. Arg. – (14) 8564 A. – “Mainly under dry conditions, as in the valleys of the central Alps and in southern Europe” (Poelt & Vězda 1981, translated).
- ***Rhizocarpon geographicum* subsp. *lindsayanum* (Räsänen) – (30) 8672 B. – Occurs almost throughout Europe (Poelt & Vězda 1977, as *R. riparium* subsp. *lindsayanum* (Räsänen) Thoms.).
- Rhizocarpin macrosporum* Räsänen – (30) 8669 B. – New to Ipiros.
- Rhizocarpon petraeum* (Wulfen) A. Massal. – (28) 8656 B. – New to Ipiros.
- Rhizocarpon polycarpum* (Hepp) Th. Fr. – (30) 8666 A. – New to Ipiros.
- Rhizocarpon tinei* (Tornab.) Runemark – (14) 8564 B; (30) 8671 C, 8673 C. – New to Ipiros.
- ***Rimularia furvella* (Nyl. ex Mudd) Hertel & Rambold – Parasitic on *Lecidea fuscoatra*. (14) 8564 D. – Occurs commonly from the montane to the subalpine zone (Clauzade & Roux 1985).
- ***Rinodina albana* (A. Massal.) A. Massal. – (14) 8562 C. – Occurs in montane forests in Central and S Europe (Clauzade & Roux 1985).
- Rinodina bischoffii* (Hepp) A. Massal. – On a stone wall. (33) 5759-7. – New to Thessalia.
- Rinodina capensis* Hampe – Syn.: *R. corticola* (Arnold) Arnold – (11) 8596 B; (22) 3708-13. – New to Ipiros.

- Rinodina exigua* (Ach.) Gray – On *Quercus cerris*, *Q. ilex*, *Castanea* and *Arbutus unedo*; (3) 8708 A; (4) 8769 C; (12) 8621 B; (13) 8607 A; (20) 8752 G; (25) 8650 A; (28) 8654 A; (33) 5698-8, 5704-1, 5720-4; (35) 5752-5; (38) 5825-10; (41) 8692 D. – New to Thessalia.
- Rinodina guzzinii* Jatta – (8) 8726 A. – There are two previous records from Greece (Peloponnisos: Mt Chelmos and Makedhonia: W of Kavala, see Mayerhofer 1984: 419, fig. 48).
- Rinodina immersa* (Körb.) Zahlbr. – On limestone rocks. (23) 8638 D; (24) 8645 A; (25) 8648 A; (36) 5774-7. – New to Thessalia.
- Rinodina milvina* (Wahlenb.) Th. Fr. – (30) 8672 A. – New to Ipiros.
- **Rinodina oleae* Bagl. – On *Olea europaea*, *Pyrus communis*, *Quercus ilex* and *Arbutus unedo*. (33) 5698-6; (35) 5752-6, 5756-4, 5763-7; (38) 5825-9.
- Rinodina pyrina* (Ach.) Arnold – On *Populus* and other trees. (9) 8581 A; (14) 8561 C; (25) 8651 B. – New to Ipiros.
- Rinodina teichophila* (Nyl.) Arnold – (5) 8779 B. – This species has once been recorded from Sterea Ellas (Matzer & Mayerhofer 1994). New to Makedhonia.
- Sarcogyne regularis* Körb. – On a stone wall and rock outcrops. (25) 8648 C; (33) 5753-3. – New to Ipiros and Thessalia.
- Schaereria fuscocinerea* (Nyl.) Clauzade & Roux – (30) 8670 A. – New to Ipiros.
- **Scoliciosporum chlorococcum* (Graew. ex Steinh.) Vězda – On *Arbutus unedo*. (33) 5720-6; (38) 5825-11.
- ***Scoliciosporum perpusillum* J. Lahm ex Körb. – On *Quercus cerris*. (4) 8774 C; (21) 8636 A. – Occurs in “moderately warm regions. Epiphytic. Rare.” (Clauzade & Roux 1985, translated).
- Scoliciosporum umbrinum* (Ach.) Arnold – incl. var. *corticolum* (Anzi) Bausch – (14) 8557 A; (22) 3708-17; (30) 8666 C. – New to Ipiros.
- **Solenopsis cesatii* (A. Massal.) Zahlbr. subsp. *cesatii* – On vertical shaded rocks of conglomerate. (32) 8684 C. – A. Pel.
- Sphinctrina turbinata* (Pers.: Fr.) De Not. – Parasitic on *Pertusaria flavida* (DC.) J. R. Laundon on *Castanea*. (13) 8610 C. – New to Makedhonia.
- Staurothele hymenogonia* (Nyl.) Th. Fr. – (28) 8659 A. – New to Ipiros.
- Staurothele immersa* (A. Massal.) Dalla Torre & Sarnth. – On limestone. (23) 8638 E; (24) 8643 A. – New to Ipiros.
- ***Staurothele rugulosa* (A. Massal.) Arnold – On a stone wall and rock outcrops. (33) 5748-6; (36) 5774-6. – Occurs in “Central Europa and the Mediterranean region from sea level to the montane zone. On more or less sun-exposed rocks and walls” (Clauzade & Roux 1985, translated).
- Stigmatidium congestum* (Körb.) Triebel – Syn.: *S. schaefferi* auct. – Parasitic on *Lecanora chlorotera* Nyl. on *Carpinus* and on other trees. (10) 8587 D; (41) 8693 D. – New to Makedhonia and Thessalia.
- Teloschistes chrysophthalmus* (L.) Th. Fr. – (3) 8710 A. – New to Makedhonia.
- Tephromela atra* (Huds.) Hafellner – On *Quercus ilex*, *Olea europaea* and *Arbutus unedo*. (3) 8713 B; (6) 8763 E; (11) 8594 B; (14) 8565 B; (21) 8629 C; (28) 8656 E; (30) 8675 C; (33) 5698-3; (35) 5750-7, 5756-3; (36) 5768-1; (38) 5825-5; (39) 8697 B. – New to Ipiros.
- **Thelenella modesta* (Nyl.) Nyl. – (14) 8558 A.
- **Thelidium pyrenophorum* (Ach.) Mudd – (36) 5774-3.
- **Toninia albilabra* (Duf.) H. Olivier – (33) 5794-4.
- Toninia aromatica* (Sm.) A. Massal. – On a limestone boulder and rock outcrops. (33) 5761-2; (34) 5779-1; (46) 2667. – New to Thessalia and Peloponnisos.
- Toninia cinereovirens* (Schaer.) A. Massal. – On flat rocks of conglomerate. (31) 8679 C. – New to Thessalia.
- ***Trapeliopsis flexuosa* (Fr.) Coppins & P. James – On *Castanea*. (13) 8611 B. – A widespread species in Europe (Clauzade & Roux 1985).
- ***Umbilicaria cylindrica* (L.) Delise ex Duby – (30) 8677 A. – Occurs “in Northern Europe in the lowlands and in Central Europe from the montane far into the alpine zone, in southern Europe in the mountains as far south as Portugal, Sardinia and the Balkans” (Poelt & Vězda 1981, translated).
- ***Umbilicaria deusta* (L.) Baumg. – (30) 8677 B. – Occurs “preferably on low and in winter snow-covered, boulders and rocks, often in large populations; in the North at low altitude, otherwise widely distributed in the mountains of Europe reaching the Balkans in the South” (Poelt & Vězda 1981, translated).
- Usnea filipendula* Stirt. – On *Quercus cerris* and *Populus*. (4) 8768 C; (6) 8761 A; (9) 8574 C. – New to Makedhonia.
- ***Usnea glabrata* (Ach.) Vain. – (3) 8711 C; (6): 8761 B. – Occurs in “moderately warm regions and at low altitude in mountains” (Clauzade & Roux 1985, translated).
- **Usnea glabrescens* (Nyl. ex Vain.) Vain. – (6) 8761 C.
- **Usnea wirthii* Clerc – (3) 8708 B.
- Verrucaria caerulea* DC. – Syn.: *V. glaucina* Ach. – (28) 8658 B; (44) 2670-3. – New to Ipiros.
- Verrucaria macrostoma* DC. – (8) 8729 A. – New to Makedhonia.
- ***Verrucaria maura* Wahlenb. – (34) 5797-3. – Occurs “along the Atlantic Ocean, the English Channel, the North Sea and the Arctic Seas” (Clauzade & Roux 1985, translated).
- Verrucaria muralis* Ach. – (33) 5694-3, 5722-1; (42) 5731-3. – New to Thessalia.

Verrucaria nigrescens Pers. – On a stone wall and rock outcrops. (25) 8646 E; (33) 5755-6. – New to Ipiros and Thessalia.

Verrucaria parmigerella Zahlbr. – Syn.: *V. sphinctrinella* Zschacke – (33) 5715-1. – New to Thessalia.

**Xanthomendoza aphrodites* (Kalb & al.) Söchting & al. – (25) 8650 B conf. U. Söchting, with *Caloplaca haematites* 8650 E. – This species was recently reported from the island of Kriti (Christensen & Svane 2007). The geographical distance between Kriti and Dodoni of Ipiros indicates that the species is widespread in Greece and under-recorded.

***Xanthomendoza ulophyllodes* (Räs.) Söchting & al. – On *Populus*. (9) 8574 B. – Occurs in N, Central and E Europe (Poelt & Petutschnig 1992: Karte 5).

Xanthomendoza sp. – (25) with *Caloplaca haematites* 8650 E, with *Caloplaca cerinella* 8651 A.

Xanthoparmelia attica (Leuckert & al.) O. Blanco & al. – Syn.: *Parmelia attica* (Leuckert & al.) Essl. – On coastal rocks. (34) 5798-2. – While known from several islands in the Aegean Sea (Esslinger 1973), on the mainland of Greece it was hitherto only known from the type locality, Mt Pendeli, Attica (Esslinger 1973). – New to Thessalia.

Xanthoparmelia conspersa (Ach.) Hale – (5) 8778 B; (8) 8718 B; (14) 8571 A; (30) 8675 A; (33) 5712-3. – New to Ipiros.

***Xanthoparmelia protomatrae* (Gyeln.) Hale – (8) 8717 A. – A. Pel. – Occurs scattered in S and Central Europe reaching S Norway (Poelt & Vězda 1981).

Xanthoparmelia pulla (Ach.) O. Blanco & al. – Syn.: *Neofuscelia pulla* (Ach.) Essl. – On flat rocks of conglomerate and other rocks. (5) 8778 A; (8) 8722 B; (14) 8571 B; (30) 8660 C; (31) 8678 A; (33) 5709-4, 5697-4. – New to Ipiros.

Xanthoparmelia stenophylla (Ach.) Ahti & D. Hawksw. – Syn.: *X. somloënsis* (Gyeln.) Hale, *Parmelia taractica* Krempelh. – (1) 8759 A; (8) 8717 B; (14) 8570 A; (33) 5695-3. – New to Thessalia.

Xanthoparmelia tinctina (Maheu & A. Gillet) Hale – (8) 8718 A; (31) 8678 B. – New to Thessalia.

Xanthoparmelia verruculifera (Nyl.) O. Blanco & al. – Syn.: *Neofuscelia verruculifera* (Nyl.) Essl. – (8) 8719 A; (33) 5712-1. – New to Makedhonia and Thessalia.

Xanthoria calcicola Oxner – On vertical shaded rocks of conglomerate. (32) 8687 B. – New to Thessalia.

Xanthoria parietina (L.) Th. Fr. – On *Quercus ilex* and *Pyrus communis*. (3) 8710 B; (5) 8776 B; (11) 8591 C; (19) 8741 D; (20) 8750 D; (22) 3705-2; (25) 8650 C; (28) 8653 D; (35) 5750-1, 5763-1. – New to Thessalia.

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References

- Ahti T. 1977: *Cladonia* Wigg. subgen. *Cladina* (Nyl.) Leight. – Pp. 45-49 in: Poelt J. & Vězda A., Bestimmungsschlüssel europäischer Flechten. Ergänzungsheft I. – Vaduz.
- Arroyo R., Serriña E. & Manrique E. 1995: *Ramalina elegans* (Lichenes, Ramalinaceae) a taxon which has been mistaken for *Ramalina calicaris* and *R. fastigiata* in the Iberian peninsula. – Cryptog. Bot. **5**: 22-27.
- Cengia-Sambo M. 1924: Licheni di Rodi raccolti dal Prof. Adriano Fiori nell'Agosto 1923. – Bull. Soc. Bot. Ital. **1924**: 123-125.
- Christensen S. N. 1989: The lichen flora on *Ulmus* in a N Greek mountain village with an introduction to the literature on Greek lichens. – Graphis Scripta **2**: 107-113.
- Christensen S. N. 1994a: Lichens associated with *Pinus nigra* on Mt Trapezitsa, Epirus, NW Greece. – Acta Bot. Fenn. **150**: 11-20.
- Christensen S. N. 1994b: Lichens on plane trees in two Greek localities with contrasting environments. – Bot. Chron. **11**: 31-39.
- Christensen S. N. 2007: Lichens of *Cupressus sempervirens* on the Aegean islands of Kriti and Kos, Greece. – Willdenowia **37**: 577-585. [[CrossRef](#)]
- Christensen S. N. & Svane S. 2007: Contribution to the knowledge of the lichen flora of Crete (Kriti), Greece. – Willdenowia **37**: 587-593. [[CrossRef](#)]
- Clauzade G. & Roux C. 1985: Likenoj de Okcidenta Europo. Ilustrita determinlibro. – Bull. Soc. Bot. Centre-Ouest, ser. 2, Numéro Spécial: **7-1985**: 1-893.
- Crespo A., Arguello A., Lumbsch H. T., Llimona X. & Tønsberg T. 2006: A new species of *Lepraria* (Lecanorales: Stereocaulaceae) from the Canary Islands and the typification of *Lepraria isidiata*. – Lichenologist **38**: 213-221. [[CrossRef](#)]
- Dafis S. 1975: Vegetationsgliederung Griechenlands. – Veröff. Geobot. Inst. ETH, Stiftung Rübel, Zürich, **55**: 23-36.
- Esslinger T. L. 1973: Nomenclatural notes on some members of *Parmelia* section *Melanoparmelia*. – Bryologist **76**: 306-309. [[CrossRef](#)]
- Frøberg L. 1997: Variation in the *Lecanora dispersa* group in South Sweden. – Symb. Bot. Upsal. **32**: 29-34.
- Grube M., Lindblom L. & Mayrhofer H. 2001: Contributions to the lichen flora of Crete: a compilation of

- references and some new records. – *Studia Geobot.* **20**: 41-59.
- Hawksworth D. L., Blanco O., Divakar P. K., Ahti T. & Crespo A. 2008: A first checklist of parmelioid and similar lichens in Europe and some adjacent territories, adopting revised generic circumscriptions and with indications of species distribution. – *Lichenologist* **40**: 1-21. [[CrossRef](#)]
- Horvat I., Glavač V. & Ellenberg H. 1974: Vegetation Südosteuropas. – Stuttgart.
- Leuckert C., Kümmerling H. & Wirth V. 1995: Chemotaxonomy of *Lepraria* Ach. and *Leproloma* Nyl. ex Crombie, with particular reference to Central Europe. – *Biblioth. Lichenol.* **58**: 245-259.
- Magnusson A. H. 1950: On some species of *Blastenia* and *Caloplaca* with black apothecia. – *Bot. Not.* **1950**: 369-386.
- Matzer M. & Mayrhofer H. 1994: The saxicolous *Rinodina teichophila* and three closely related species from the southern hemisphere (*Physciaceae*, lichenized Ascomycetes). – [Acta Bot. Fenn.](#) **150**: 109-120.
- Mayrhofer H. 1984: Die saxicolen Arten der Flechtengattungen *Rinodina* und *Rinodinella* in der alten Welt. – *J. Hattori Bot. Lab.* **55**: 327-493.
- Poelt J. & Leuckert C. 1995: Die Arten der *Lecanora dispersa*-Gruppe (*Lichenes*, *Lecanoraceae*) auf kalkreichen Gesteinen im Bereich der Ostalpen – Eine Vorstudie. – *Biblioth. Lichenol.* **58**: 289-333.
- Poelt J. & Petutschnig W. 1992: *Xanthoria candelaria* und ähnliche Arten in Europa. – *Herzogia* **9**: 103-114.
- Poelt J. & Vězda A. 1977: Bestimmungsschlüssel europäischer Flechten. Ergänzungsheft I. – Vaduz.
- Poelt J. & Vězda A. 1981: Bestimmungsschlüssel europäischer Flechten. Ergänzungsheft II. – Vaduz.
- Polunin O. 1980: Flowers of Greece and the Balkans, a field guide. – Oxford, etc.
- Schuler A. 2004: Charakterarten mitteleuropäischer Pflanzengesellschaften an ihrer Verbreitungsgrenze in Griechenland. – *Bot. Chron.* **17**: 1-168.
- Śliwa L. 2007: A revision of the *Lecanora dispersa* complex in North America. – *Polish Bot. J.* **52**: 1-70.
- Søchting U., Kärnefelt I. & Kondratyuk S. 2002: Revision of *Xanthomendoza* (*Teloschistaceae*, *Lecanorales*) based on morphology, anatomy, secondary metabolites and molecular data. – *Mitt. Inst. Allg. Bot. Hamburg* **30-32**: 225-240.
- Spribile T., Schultz M., Breuss O. & Bergmeier E. 2006: Notes on the lichens and lichenicolous fungi of western Crete (Greece). – *Herzogia* **19**: 125-148.
- Szatala Ö. 1943: *Lichenes*. – *Denkschr. Akad. Wiss. Wien, Math.-Nat. Kl.* **105(1)**: 16-58.
- Theodoropoulos K. G. 1991: [Classification of vegetation in Taxiarchis University Forest, Chalkidiki] (in Greek). – *Sci. Ann. Depart. Forest. Nat. Environm. Thessaloniki* **22(18)**.
- Vitikainen O. 1994: Taxonomic revision of *Peltigera* (lichenized *Ascomycotina*) in Europe. – *Acta Bot. Fenn.* **152**: 1-96.
- Zedda L. 2000: The lichen genera *Lepraria* and *Leproloma* in Sardinia (Italy). – *Cryptog. Mycol.* **21**: 249-267. [[CrossRef](#)]