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INTERESTING LICHEN SPECIES FROM THE MARATEA COAST (BASILICATA REGION, SOUTH ITALY)

Interessante Flechten von der Marateaküste (Basilikata-Region, Süditalien)

by

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Key words: Lichen flora, south Italy.
Schlagwörter: Flechtenflora, Süditalien.

Summary: A contribution to the knowledge of the lichen epiphytic and epilithic flora of the Thyrrenian coast of the region Basilicata is provided. The aim was mainly to recognize the Mediterranean element considered as very scarce when compared with the vascular mediterranean flora. The chorological analysis shows that truly Mediterranean species are more frequent among the epilithic than the epiphytic ones as pointed out previously by NIMIS (1993, 1996).

Zusammenfassung: Die epiphytische und epilithische Flechtenflora der Thyrrenischen Küste in der Region Basilicata wird unter besonderer Berücksichtigung der mediterranen Elemente vorgestellt. Eine Analyse der Chorologie zeigt, daß echte mediterrane Arten unter den epilithischen Flechten häufiger auftreten als unter den epiphytischen, worauf schon NIMIS (1993, 1996) hingewiesen hat.

Introduction

Basilicata is a small southern italian region, little studied in the second half of the previous century; the subsequence few contributions added very little to the lichenological knowledge of this region (NIMIS 1993). The steel coast, close to the better known Calabria, seems to be right for the purpose of recognizing lichen mediterranean species whose incidence in the Italian lichen

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flora is quite low when compared with the vascular one (NIMIS & TRETIACH 1995; NIMIS 1996).

In a field survey in May 1996, nearly one hundred epiphytic and epilithic species were collected, and some of them are fairly interesting from both a phytogeographical and a taxonomic point of view.

Survey area

The Tyrrhenian coast of the Regione Basilicata includes a small portion (28 km) of the gulf of Policastro, from Sapri to the Noce river which marks the border with Calabria.

The climate is sub-mediterranean. Average rainfall is 1246 mm (1971-1990), temperature 14,5° C. Higher rainfall is likely to be due to the high mountains raising from the coast ("orographic rains").

The mountains run along the coastline and are broken by perpendicular short and humid valleys.

Significant parts of the area are inaccessible. Therefore, even though the tourist areas nearby attract large crowds, it is still possible to find several sites where the vegetation shows interesting conservative aspects. These sites shows various bioclimatic conditions: sunny arid rocks alternate with shady humid hollows and the typical Mediterranean xerotermic vegetation *(Oleo-Ceratonion)* alternates with mixed sclerophylle - decidous plant community *(Quercetalia pubescentis)*. Anthropogenic *(Robinia)* and cultivated plants are present all over.

Data and methods

A range diagnosis for each species was done, following WIRTH (1980) when possible, or obtainig informations from the Lichens of Italy (NIMIS 1993) and other relevant literature.

Results

A total of 97 species has been recorded as reported in Table 1. In spite off the very preliminar character of the field survey, both the epiphytic and the epilithic lichen flora (Fig. 1) appear to be particularly rich, although the reduced number of fruticose and foliose species.

Topelia nimisiana, recently described by TRETIACH & VEZDA (1992), was found on the bark of deciduous *Quercus*, as for its first collection in the nature reserve of Castelporziano, Latium (central Italy).

The chorological analysis shows a high percentage of widely distributed species (Fig. 2); particularly notable are lichens with suboceanic affinity, such

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as *Normandina pulchella* that is very frequent mainly on deciduous *Quercus*, on *Q. ilex*, *Olea europaea* and *Ceratonia siliqua*. Also notable are *Degelia atlantica* and *Enterographa crassa*, found very frequently and showing a good correlation with air humidity. *Leptogium brebissonii* is another subatlantic species, already found in Calabria, that appears to be distributed along the Tyrrhenian coast (NIMIS & POELT 1987).

"Mediterranean" epiphytic species appear to be bounded to suboceanic conditions (NIMIS & SCHIAVON 1986; PUNTILLO & CODOGNO 1987; BARTOLI et al., 1991). As previously noted elsewhere, we did not find a lot of truly "Mediterranean" epiphytic species, e.g. with a "Mediterranean" range, as for higher plants: of 60 collected species, only *Dimerella tavaresiana*, *Koerberia biformis* and *Opegrapha celtidicola* can be considered truly "Mediterranean", besides *Topelia nimisiana*, until now known only for the Tyrrhenian coasts.

As already pointed out, truly Mediterranean species are more frequent among the epilithic than the epiphytic ones, i.e. *Placolecis opaca*, *Lithothelium triseptatum*, *Petractis luetkemuelleri*, *Solenopsora olivacea* (Fig. 3).

The contemporary presence, in this coastal areas near a mountain range, of lichens having oceanic and boreal distributions is an interesting evidence that legitimate the debate on the true limits of the oro-boreal belt in Italy. As correctly suggested by NIMIS, this limit should be set at the southern tip of Italy.

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Tab. 1 - Floristic list

Species	substrate	Areal diagnosis
Anema nummularium (Durieu & Mont.) Nyl.	limestone	med.subatl
Aspicilia calcarea (L.) Mudd	limestone	bor-med
Caloplaca aurantia (Pers.) Steiner	limestone	s'mieur-med
Caloplaca citrina (Hoffm.) Th.Fr.	limestone	bor-med
Caloplaca flavescens (Hudson) Laundon	limestone	mieur -med
Caloplaca xantholyta (Nyl.) Jatta	limestone	mieur-med(mo)
Clauzadea immersa (Weber) Haf.& Bellemère	limestone	mieur-med.subatl
Diplotomma epipolium (Ach.) Arnold	lateritium	bor-med
Lecanactis grumulosa (Dufour) Fr.	limestone	mieur.subatl
Lecanora dispersa (Pers.) Sommerf.	limestone	arkt-med
Lepraria nivalis Laundon	limestone	bor-med
Leptogium diffractum Körber	limestone	mieur-med
Lichina confinis (Müll.) Agardh	limestone	s'bor-mieur.atl-med
Lichinella stipatula Nyl.	limestone	med(mo)subatl
Lithothelium triseptatum (Nyl.) Aptroot	limestone	med.subatl
Opegrapha calcarea Sm.	limestone	smed.subatl
Opegrapha subelevata (Nyl.) Nyl.	limestone	s'mieur.atl-med
Parmelia pulla Ach.	lateritium	s'bor-med
Petractis luetkemuelleri (Zahlbr.) Vezda	limestone	med.atl
Placolecis opaca (Fr.) Haf.	limestone	(s'mieur)-med.subatl
Placynthium nigrum (Hudson) Gray	limestone	bor-med
Porina byssophila (Körber) Zahlbr.	limestone	s'mieur.atl-med
Sarcogyne regularis Körber	limestone	arkt-med
Solenopsora olivacea (Fr.) Kilias	limestone	med.subatl
Squamarina lentigera (Weber) Poelt	limestone	(bor.atl)-mieur-med
Verrucaria nigrescens Pers.	limestone	bor-med
Catapyrenium pilosellum Breuss	soil	med.subatl
Cladonia convoluta (Lam.) Anders	soil	s'mieur.subko-med
Cladonia pyxidata (L.) Hoffm.	soil	arkt-med
Cladonia rangiformis Hoffm.	soil	s'bor-med
Toninia sedifolia (Scop.) Timdal	soil	bor.atl-med
Agonimia tristicula (Nyl.) Zahlbr.	mosses	mieur.atl-med
Mycobilimbia sabuletorum (Schreber) Haf.	mosses	bor-med(mo)
Topelia rosea (Servit) Jörg.&Vezda	mosses	med.subatl

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Species	substrate	Areal diagnosis
Acrocordia gemmata (Ach.) Massal.	bark Q	s'bor-mieur(subatl)-med
Anisomeridium nyssaegenum (Ellis & Everh) Harris	bark R	bor-med
Arthonia radiata (Pers.) Ach.	bark L	s'bor.subatl-med
Arthopyrenia cinereopruinosa (Schaerer) Massal.	bark F	mieur.subatl-med
Arthopyrenia punctiformis (Pers.) Massal.	bark F,L	bor-med
Bacidia incompta (Hooker) Anzi	bark Q	mieur-smed
Bacidina phacodes (Körb.) Vezda	bark Q	bor-mieur(subatl)-med
Buellia disciformis (Fr.) Mudd	bark Qi	bor-med.mo
Byssoloma leucoblepharum (Nyl.) Vainio	bark L	(pantrop)-med.atl
Caloplaca holocarpa (Ach.) Wade	bark Qi	arkt-med
Candelaria concolor (Dickson) Stein.	bark C	s'bor-med
Candelariella vitellina (Hoffm.) Müll. Arg	bark Qi	arkt-med
Candelariella xanthostigma (Ach.) Lettau	bark C	bor-med
Collema furfuraceum (Arnold) Du Rietz	bark Qi,O,P	bor.atl-mieur.atl-med(mo)
Degelia atlantica (Degel) Jörg. & James	bark Qi,P,C	mieur-med.atl
Dimerella tavaresiana Vezda	bark Q	med.atl
Diploicia canescens (Dickson) Massal.	bark Qi	mieur.subatl-med
Enterographa crassa (DC) Fée	bark Q	mieur.subatl
Evernia prunastri (L.) Ach.	bark O	bor-med
Gyalecta truncigena (Ach.) Hepp	bark Qi	mieur-med
Hyperphyscia adglutinata (Flörke) Mayrh & Poelt	bark Qi	mieur.subatl-med
Koerberia biformis Massal.	bark Qi,O,P	med.subatl
Lecania cyrtella (Ach.) Th. Fr.	bark Q	s'bor-med
Lecanora argentata (Ach.) Malme	bark Qi	bor-mieur-med(mo)
Lecanora chlarotera Nyl.	bark Qi	s'bor-med
Lecidella elaeochroma (Ach.) Haszl.	bark Qi	(arkt)-bor-med
Lepraria incana (L.) Ach.	bark O	(bor)-mieur-med
Leptogium brebissonii Mont.	bark O,P	mieur.subatl-med
Leptogium teretiusculum (Wallr.) Arnold	bark O,P,C	s'bor-smed
Nephroma laevigatum Ach.	bark Q	bor.atl-mieur.atl-med(subatl)
Normandina pulchella (Borrer) Nyl.	bark Q,Qi,O	mieur-med.subatl
Opegrapha rufescens Pers.	bark Q	s'bor-mieur.subatl - med(mo)
Opegrapha varia Pers.	bark Qi	s'bor-smed
Parmelia acetabulum (Necker) Duby	bark O,P	mieur-med(mo)
Parmelia caperata (L.) Ach.	bark P,C	s'bor(subatl)-med
Parmelia glabra (Schaerer) Nyl.	bark P	mieur.pralp-med.mo

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Parmelia quercina (WILLD.) VAINIO	bark Q	mieur.subatl(pralp)-med.mo
Parmelia subrudecta NYL.	bark Q,Qi,C	mieur-smed
Parmelia tiliacea (HOFFM.) ACH.	bark Q	mieur-med
Parmotrema chinense (OSBECK) HALE & AHTI	bark Q	mieur.subatl-med.mo
Pertusaria amara (ACH.) NYL.	bark Qi	bor-med
Pertusaria hymenea (ACH.) SCHAERER	bark Qi	mieur(atl)-med(subatl)
Pertusaria leucostoma (BERNH.) MASSAL.	bark C	s'bor-med(mo)
Pertusaria pertusa AUCT.	bark Qi	mieur-med
Phaeophyscia ciliata (HOFFM.) MOBERG	bark Qi,P	bor-smed
Physcia adscendens (FR.) OLIV.	bark Qi,J	bor-med
Physcia aipolia (HUMB.) HAMPE	bark Qi	bor-med
Physcia biziana (MASSAL.) ZAHLBR.	bark C	smed.subatl-med
Physcia semipinnata (GMELIN) MÖBERG	bark Qi,P	s'mieur.atl-med(mo)
Physconia distorta (WILLD.) LAUNDON	bark Qi,O,P	s'bor.atl-smed
Physconia grisea (LAM.) POELT	bark C	mieur.atl-med
Porina aenea (WALLR.) ZAHLBR.	bark J	mieur(subatl)-med
Porina leptalea (DURIEU & MONT) SM.	bark L	mieur.subatl
Pyrenula chlorospila ARNOLD	bark Qi	s'mieur.atl-smed
Rinodina cfr. *conradii* KÖRBER	bark Qi	bor-mieur
Schismatomma decolorans (SM.) CLAUZ. & ROUX	bark O	mieur.subatl-med
Strangospora ochrophora (NYL.) ANDERSON	bark Q	mieur.atl
Toninia plumbina (ANZI) HAF & TIMDAL	parasitic	bor.atl-med
Topelia nimisiana TRETIACH & VEZDA-	bark Q	med.subatl
Xanthoria parietina (L.) TH. FR.	bark Qi,C,J	bor-med
Opegrapha atra PERS.	wood L	s'bor-med
Opegrapha celtidicola (JATTA) JATTA	wood L	med.atl
Opegrapha vermicellifera (KUNZE) LAUNDON	wood Q	mieur.subatl

Q = *Quercus pubescens s.l.*; R = *Robinia pseudoacacia*; L = *Laurus nobilis*; Qi = *Quercus ilex*; O = *Olea europaea*; P = *Prunus communis*; C = *Ceratonia siliqua*; J = *Juglans regia*

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Fig. 1: Substrate spectrum. Epiphytic species include parasitic and growing on mosses lichens. Epilithic include growing on soil and lateritium ones.

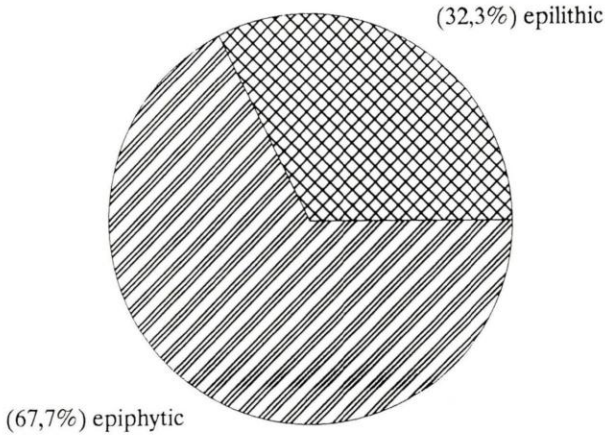
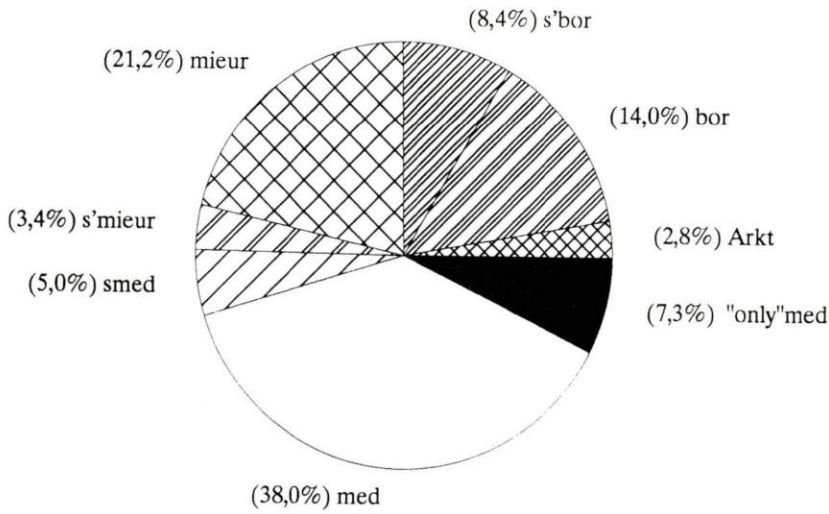
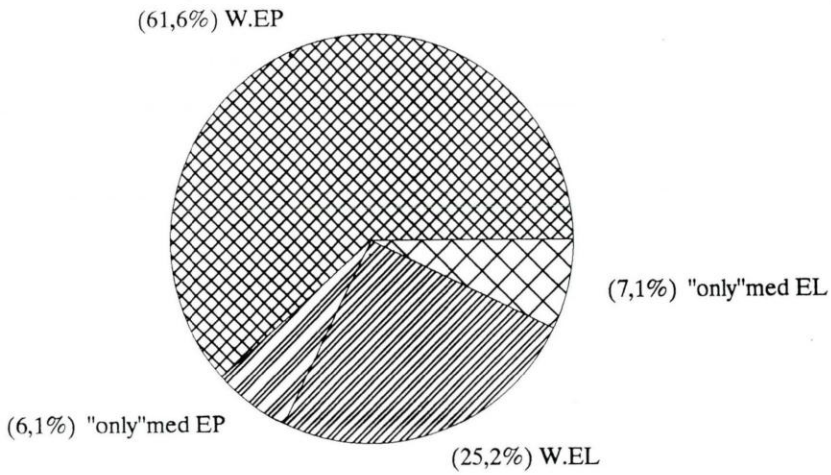


Fig. 2: Chorological spectrum.



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Fig. 3: Incidence of mediterranean species ("only" med) on epiphytic and epilithic lichen flora. W = widespread; EP = epiphytic species; EL = epilitic species.



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