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CONTRIBUTIONS TO THE LICHEN FLORA OF TRASCĂU MOUNTAINS (ALBA COUNTY, ROMANIA)

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Abstract: Two lichenological field trips were done in 2000 and 2005 in the Trascău Mts resulting 38 species. An enumeration of 190 species was compiled based on *ca* 500 literature and herbarium records. Thirteen species (*Acarospora cervina*, *Caloplaca coronata*, *C. polycarpa*, *Candelariella aurella*, *C. medians*, *Lecanora crenulata*, *Physcia adscendens*, *P. stellaris*, *Placidium rufescens*, *Rinodina immersa*, *Toninia opuntioides*, *Toninia subnitida*, *Verrucaria viridula*) were found to be new for the territory of the Trascău Mts, incl. 3 species (*Caloplaca coronata*, *C. polycarpa*, *Toninia subnitida*) new for Romania.

Keywords: Colţeşti, lichens, Piatra Secuiului, Remetea, Trascău Mts.

Introduction

Trascău Mts, the easternmost part of Apuseni Mts, are oriented in *ca* N–SSW direction, between Turda and Alba Julia (Fig. 1). Its northern border is the river Aries, the eastern one is the river Mures, and the southern is the river Ampoi. Two mountain ranges border it from the west, Gilău Mts from NW and Metaliferi Mts from SW. Two third of its area is between 800 and 1,200 m a.s.l. The highest peaks (e.g. Piatra Arsă, Piatra Dămbău) are over 1300 m a.s.l. The main bedrock of this *ca* 70–75 km long mountain range is Jurassic limestone, but Cretaceous sandstone, and some volcanic and conglomerate rock types also occur. It is very rich in caves, canyons and other karst formations. Due to its rich mineral treasure there were intensive (iron) mining activities in this region for centuries. Rimetea was the mining centre from the 7th century.

Its climate is temperate, mainly continental. Temperature and precipitation depend on the elevation. In lower regions the annual mean temperature is around 8 °C, and the average precipitation is about 600–700 mm, while at higher altitudes the temperature is 4–5 °C and the precipitation may be over 900 mm [36, 39, 40, 50].

Its vegetation is very special and diverse, rich in calciphilous species [24]. The exploration of its flora and vegetation started in 1812 by G. Baumgarten. It was visited also by the most important Transsylvanian botanists of 19th and 20th centuries. Now the flora of the higher plants is well known (especially for Piatra Secuiului) due to the intensive, several years long floristical research work made by Gergely [28, 29, 30, 31, 32], Gergely and Rațiu [33], and Șuteu [42, 43]. Because of the high number of endemic and rare animal and plant species it was designated as a Natura 2000 site (SPA). According to its cultural and ethnographical values this area became part of the World Heritage and it received also a Europa Nostra Award in 1999.

Considering the rather big territory (*ca* 1,200 km^2) of the Trascău Mountais, its lichen flora has not been sufficiently studied. The first lichen specimens were most probably collected by Joseph Barth in the 2nd half of the 19th century. These specimens were published partly by himself [1, 2], partly by Fuss [25, 26, 27], Hazslinszky [35] and later by Szatala [44, 47, 48, 49].

The latter also published some more specimens sporadically collected by other botanists (J. Csató, B. Cserni, L. Haynald, R. Rapaics). Vilmos Gyelnik visited the area (esp. Piatra Secuiului) in 1934. His specimens were published by himself [37] and by Räsänen [41] and Szatala [49]. In the second half of the 20th century Vasile Codoreanu and Maria Ciurchea made intensive lichenological investigations in the following areas of the Trascău Mts: Cheile Întregalde [13], Cheile Râmeţului [14], Masivul Bedeleului [12], and Valea Feneşului [11]. Altogether 260 specimens of 146 species were published by them from these areas. Most of them are calcicolous crustose species, one third of them belongs to the genera *Caloplaca* and *Verrucaria*. Cheile Turzii and Cheile Turului are traditionally regarded to be parts of this massive, their lichen flora is very rich and well studied. It was not our intention to discuss in details the lichen flora of these areas north of river Arieş.

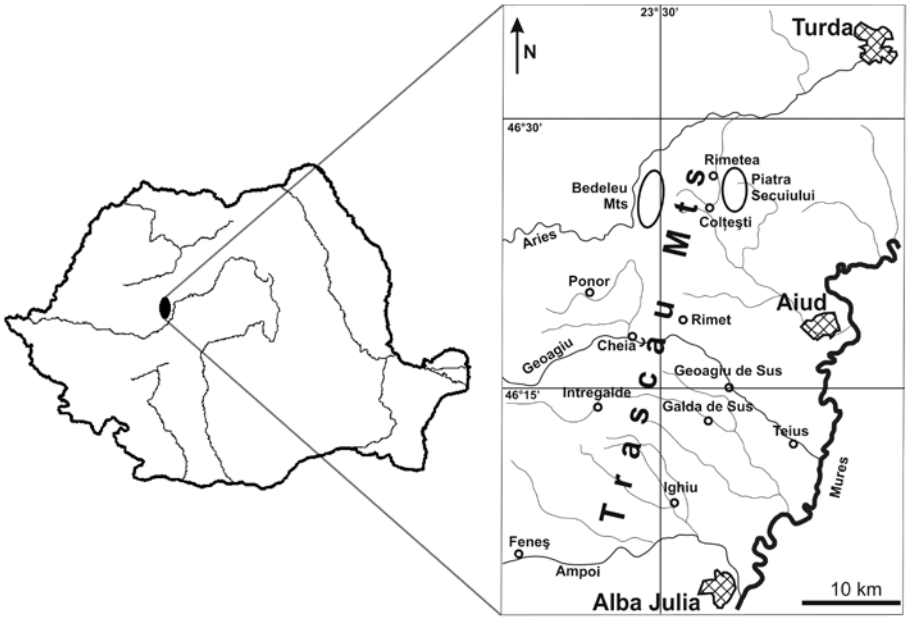

Fig. 1: Location of the study area

Material and Methods

Two lichenological field trips were done in the Trascău Mts, at the ruins of the fortress in Colţeşti (ca 2 km NW of the village, in rocky grassland on the southwestern slope, lat.: 46° 25’ 28.9” N, long.: 23° 32’ 38.9” E, alt.: 700 m a. s. l.) in autumn 2000 and at Piatra Secuiului near Remetea (gravelled terraces on the northern slope, lat.: 46° 27’ 15.7” N, long.: 23° 34’ 43.5” E, alt.: 600–900 m a. s. l.) in spring 2005 resulting 38 species (incl. 36 saxicolous and 2 epiphytic species). Our Voucher specimens are deposited in the Hungarian Natural History Museum (BP).

Results and Discussion

A complete enumeration was made according to the literature records and our collections. A total of 190 species were included in the following list according to appr. 500 records. Thirteen species (*Acarospora cervina*, *Caloplaca coronata*, *C. polycarpa*, *Candelariella aurella*, *C. medians*, *Lecanora crenulata*, *Physcia adscendens*, *P. stellaris*, *Placidium rufescens*, *Rinodina immersa*, *Toninia opuntioides*, *Toninia subnitida*, *Verrucaria viridula*) were found to be new for the territory of the Trascău Mts (boldface), incl. 3 species (*Caloplaca coronata*, *C. polycarpa*, *Toninia subnitida*) new for Romania (exclamation mark).

Lichenized species

Acarospora cervina A. Massal. in **BP 92700**
Acarospora fuscata (Nyl.) Arn. [10, 14]
Acarospora glaucocarpa (Wahl.) Koerb. [10, 14]
Acrocordia conoidea (Fr.) Körb. (= *Arthopyrenia conoidea* (Fr.) Zahlbr.) [9, 10, 12, 14]
Anema decipiens (A. Massal.) Forssell [10, 13, 38]
Arthonia lapidicola (Tayl.) DR. et Rostr. (= *Allarthonia lapidicola* Zahlbr.) [10, 13, 14, 38]
Arthopyrenia tichothecioides Arn. [9, 10, 13, 38]
Aspicilia calcarea (L.) Mudd (= *Lecanora calcarea* (L.) Sommerf.) [10, 11, 12, 13, 14, 38]
Aspicilia ceracea Arn. (= *Lecanora ceracea* (Arn. in Kremp.) Stznbr.) [10, 11]
Aspicilia contorta (Hoffm.) Krempelh. subsp. *hoffmanniana* Ekman et Fröberg (= *Lecanora contorta* (Hoffm.) Schaer.) [10, 12, 14]
Bacidia hormospora Stizenb. [12]
Bacidia rosella (Pers.) De Not. [10, 27, 35, 38, 48]
Bagliettoa parmigera (Stnr.) Vězda et Poelt (= *Protobagliettoa parmigera* (Stnr.) Serv., *Verrucaria parmigera* Stnr.) [9, 10, 11, 13, 38]
Bagliettoa steineri (Kušan) Vězda (= *Polyblastia sphinctrina* (Duf.) Serv., *Verrucaria sphinctrina* Ach.) [9, 10, 11, 13, 38]
Bellemerea cinereorufescens (Ach.) Clauzade et Cl. Roux (= *Lecanora cinereorufescens* (Ach.) Hepp) [10, 11]
Buellia subdispersa Mig. [10, 13, 38]
Caloplaca alociza (A. Massal.) Migula (= *C. agardhiana* (Flot.) Flag., *C. a.* f. *albopruinosa* (Arn.) Stein.) [10, 11, 12, 13, 38]
Caloplaca aurantia (Pers.) Hellbom [10, 11]
Caloplaca biatorina (A. Massal.) J. Steiner [10, 12, 13, 38]
Caloplaca caesiorufa (Ach.) Zahlbr. [10, 12]
Caloplaca cerina (Ehrh. ex Hedw.) Th. Fr. [10, 27, 38]
Caloplaca chalybaea (Fr.) Müll. Arg. [10, 11, 12, 13, 14, 38]
Caloplaca cirrochroa (Ach.) Th. Fr. [10, 12, 13, 38]
Caloplaca citrina (Hoffm.) Th. Fr. [10, 14]
Caloplaca conversa (Kremp.) Jatta [10, 14]
!Caloplaca coronata (Kremp. ex Körb.) J. Steiner in **BP .90511**
Caloplaca dalmatica (A. Massal.) H. Olivier (= *C. velana* DR.) [10, 13, 38]
Caloplaca decipiens (Arnold) Blomb. et Forssell [10, 12]
Caloplaca ferruginea (Huds.) Th. Fr. [10, 11, 12]
Caloplaca flavorubescens (Huds.) J. R. Laundon (= *C. aurantiaca* (Lightf.) Th. Fr.) [10, 12, 13, 38]
Caloplaca lactea (A. Massal.) Zahlbr. [10, 11, 12, 14]
Caloplaca luteoalba (Turner) Th. Fr. (= *Candelariella luteoalba* (Turner) Lettau) [10, 13, 38]
Caloplaca marmorata (Bagl.) Jatta [10, 11, 12, 13, 38]
Caloplaca ochracea (Schaer.) Flagey (= *Blastenia ochracea* (Schaer.) Trevis.) [10, 12]
!Caloplaca polycarpa (A. Massal.) Zahlbr. in **BP 90513** and **BP 90524**
Caloplaca saxicola (Hoffm.) Nordin (= *C. murorum* (Hoffm.) Th. Fr., *C. tegularis* Sandst.) [10, 12, 13, 14, 38]
Caloplaca sorediata (Vain.) Du Rietz [10, 12]
Caloplaca variabilis (Pers.) Müll. Arg. (= *C. fulva* (Anzi) Stein, *C. v.* f. *granulosa* (Arn.) DT. et Sarnth.) [10, 11, 12, 13, 14, 38]
Caloplaca vitellinula (Nyl.) Oliv. [10, 11, 12, 14]
Candelariella aurella (Hoffm.) Zahlbr. in **BP 92701**
Candelariella granulata (Schaer.) Zahlbr. [10, 13, 38]
Candelariella medians (Nyl.) A. L. Smith in **BP 92702**
Candelariella vitellina (Ehrh.) Müll.-Arg. (= *C. flavovirella* (Nyl.) Lett.) [10, 12, 13, 14, 38]
Catillaria athallina (Hepp) Hellb. [10, 12]
Catillaria chalybaea (Borr.) Mass. [10, 11, 12, 13, 14, 38]
Catillaria endodesmia Müll.-Arg. [10, 14]
Catillaria lenticularis (Ach.) Th. Fr. [10, 12, 14]
Catillaria nigroclavata (Nyl.) Schuler [10, 12]
Chrysothrix chlorina (Ach.) J. R. Laundon [5, 10, 14]
Collema auriforme (With.) Coppins et J. R. Laundon (= *C. auriculatum* Hoffm.) [10, 15, 18, 27, 38, 47]
Collema crispum (L.) Weber ex F. H. Wigg. (= *C. cheileum* Ach.) [15, 18, 27, 38, 47]
Collema cristatum (L.) Wigg. (= *C. multifidum* (Scop.) Rabh., *C. m.* var. *jacobeaefolium* (Schrank.) Rabh. [10, 12, 14, 27, 47]

Collema multipartitum Sm. [10, 12]
Collema polycarpon Hoffm. [10, 12, 13, 38]
Dactylospora saxatilis (Schaer.) Hafellner (= *Buellia saxatilis* (Schaer.) Körb.) [10, 12]
Dermatocarpon luridum (Dill. ex With.) J. R. Laundon (= *D. fluviatile* (Weber) Th. Fr.) [9, 10, 15, 17, 27, 38, 44]
Dermatocarpon miniatum (L.) W. Mann [10, 12, 14, 15, 27, 38, 44]
Diploschistes gypsaceus (Ach.) Zahlbr. (= *D. albissimus* (Ach.) DT. et Sarnth.) [3, 10, 13, 15, 18, 38, 47, 51]
Diploschistes scruposus (Schreb.) Norm. [3, 10, 12, 13, 14, 38]
Diplotomma alboatrum (Hoffm.) Flot. (= *Buellia alboatra* (Hoffm.) Th. Fr.) [10, 11, 13, 38]
Diplotomma epipolium (Ach.) Arnold (= *Buellia epipolia* (Ach.) Magn.) [10, 12, 14]
Diplotomma scheideggerianum (Bricaud et Cl. Roux) Nimis (= *Buellia subdispersa* Mig.) [10, 14]
Enterographa zonata (Körb.) Källsten ex Torrente et Egea (= *Opegrapha zonata* Körb.) [10, 18, 38]
Farnoldia jurana (Schaer.) Hertel (= *Lecidea jurana* Schaer.) [10, 11, 14]
Graphis elegans (Borrer ex Sm.) Ach. [10, 21, 22, 38]
Gyalecta jenensis (Batsch) Zahlbr. [10, 12, 14, 20, 47]
Lasallia pustulata (L.) Mérat [10, 16, 18, 38]
Lecania erysibe (Ach.) Mudd [10, 12, 14]
Lecanora agardhiana Ach. [10, 11, 12, 13, 14, 38]
Lecanora albescens (Hoffm.) Branth et Rostr. [10, 12]
Lecanora cacuminum Müll.-Arg. [10, 14]
Lecanora crenulata Hooker in **BP 92703**
Lecanora dispersa (Pers.) Sommerf. (incl. f. *pruinosa* (Anzi) Zahlbr.) [10, 12, 13, 14, 38]
Lecanora minutissima A. Massal. [10, 11]
Lecanora reuteri Schaer. [10, 12, 13, 14, 38]
Lecanora silesiaca Stein [10, 11]
Lecanora vidraensis Ciurchea [10, 14]
Lecidea exornans Nyl. [10, 11, 12]
Lecidella carpathica Körb. (= *Lecidea carpathica* (Koerb.) Szat.) [10, 14]
Lecidella elaeochroma (Ach.) M. Choisy (= *Lecidea olivacea* (Hoffm.) A. Massal., *L. o.* f. *limitata* (Ach.) Vain.) [45, 48]
Lepraria incana (L.) Ach. (= *L. aeruginosa* (Weiss) Sm.) [10, 12]
Leptogium cyanescens (Pers.) Körb. [2, 10]
Leptogium lichenoides (L.) Zahlbr. [10, 15, 18, 27, 38, 47]
Leptogium plicatile (Ach.) Leight. [15, 18, 27, 38, 47]
Leptogium saturninum (Dicks.) Nyl. [10, 15, 18, 38, 47]
Lobothallia radiosa (Hoffm.) Hafellner (= *Lecanora radiosa* Schaer., *L. r.* var. *subcircinata* (Nyl.) Zahlbr.) [10, 12, 13, 14, 38]
Mycobilimbia lurida (Ach.) Hafellner et Türk (= *Lecidea lurida* (Dill.) Ach. [25, 26, 27, 35, 38, 48]
Naetrocymbe saxicola (A. Massal.) R. C. Harris (= *Arthopyrenia saxicola* Mass.) [9, 10, 12, 14]
Opegrapha calcarea Turner ex Sm. (= *O. trifurcata* Hepp) [8, 12, 13, 14, 38]
Opegrapha rupestris Pers. (= *O. centrifuga* Mass., *O. personii* Ach., *O. saxicola* Ach.) [8, 10, 11, 12, 14]
Opegrapha vulgata Ach. (= *O. lithyrga* Ach.) [10, 12]
Peltigera aphthosa (L.) Willd. [45, 48]
Peltigera canina (L.) Willd. (incl. f. *subfibrilloides* Gyeln.) [23, 37, 45, 48]
Peltigera didactyla (With.) J. R. Laundon (= *P. spuria* (Ach.) DC.) [27, 35, 48]
Peltigera horizontalis (Huds.) Baumg. [27, 46, 48]
Peltigera malacea (Ach.) Funck (= *P. polydactyloides* Nyl., *P. p.* f. *complicata* (Nyl.) Gyeln., *P. p.* f. *imbricatoides* Gyeln.) [37]
Peltigera polydactylon (Neck.) Hoffm. (incl. f. *crassoides* Gyeln.) [27, 37, 48]
Peltigera venosa (L.) Baumg. [27, 35, 48]
Petractis clausa (Hoffm.) Kremp. [10, 12, 13, 19, 38]
Petractis hypoleuca (Ach.) Vězda (= *Gyalecta hypoleuca* (Ach.) Zahlbr.) [10, 12]
Phaeophyscia orbicularis (Necker) Moberg (= *Physcia obscura*) [10, 14]
Physcia adscendens (Fr.) H. Olivier in **BP 92704**
Physcia caesia (Hoffm.) Hampe [10, 14]
Physcia dubia (Hoffm.) Lett. [10, 14]
Physcia stellaris (L.) Nyl. in **BP 92705**
Physcia tenella DC. em. Bitt. [10, 14]
Placidium rufescens (Ach.) A. Massal. in **BP 92706**
Placocarpus schaereri (Fr.) O. Breuss (= *Dermatocarpon monstrosum* (Schaer.) Vain.) [9, 10, 11, 12, 13, 14, 38]
Placynthium nigrum (Huds.) S. Gray [7, 10, 12, 14]

Polyblastia abscondita (Nyl.) Arn. [9, 10, 12]
Polyblastia albida Arn. (= *Amphoroblastia obsoleta* (Arn.) Serv.) [9, 10, 12, 13, 14, 38]
Polyblastia cinerea (A. Massal.) Jatta (= *Amphoroblastia cinerea* (Jatta) Serv.) [9, 10, 14]
Polyblastia cupularis Mass. [9, 10, 11, 12]
Polyblastia deminuta Arn. [9, 10, 13, 38]
Polyblastia melanospora (Taylor) Zahlbr. (= *P. scotinospora* (Nyl.) Hellb.) [9, 10, 12, 13, 38]
Polyblastia sepulta A. Massal. (= *Amphoroblastia quinqueseptata* (Hepp) Servít) [9, 10, 11]
Porina chlorotica (Ach.) Müll.-Arg. [10, 14]
Protoblastenia calva (Dicks.) Zahlbr. [10, 12, 14]
Protoblastenia incrustans (DC.) Stein [10, 14]
Protoblastenia rupestris (Scop.) Stein [10, 12, 14]
Protoparmeliopsis muralis (Schreber) M. Choisy (= *Lecanora muralis* (Schreb.) Rabenh., *L. m.* var. *versicolor* (Pers.) Tuck.) [10, 11, 12, 13, 14, 38]
Psora testacea (Hoffm.) Ach. (= *Lecidea testacea* Ach.) [10, 13, 38, 48]
Psorotichia schaereri (A. Massal.) Arnold [6]
Ramalina fastigiata (Pers.) Ach. [1, 49]
Ramalina fraxinea (L.) Ach. (incl. f. *luxurians* (Del.) Szat., var. *taeniata* (Ach.) Rebent.) [1, 27, 41, 49]
Rhizocarpon concentricum (Davies) Beltr. [10, 12, 13, 38]
Rhizocarpon hochstetteri (Körb.) Vain. [10, 11]
Rhizocarpon simillimum (Anzi) Lettau [10, 11]
Rhizocarpon umbilicatum (Ramond) Flagey [48]
Rhizoplaca peltata (Ramond) Leuckert et Poelt (= *Lecanora peltata* (DC.) Fr., *Squamarina peltata* DC.) [10, 16, 18, 38]
Rinodina bischoffii (Hepp) A. Massal. (incl. var. *immersa* Körb., var. *intermedia* Müll. Arg., var. *leucomelas* Müll. Arg.) [10, 11, 12, 13, 14, 38]
Rinodina castanomela (Nyl.) Arn. [10, 13, 38]
Rinodina calcarea (Hepp) Arn. [10, 11, 14]
Rinodina dubyana (Hepp) J. Steiner (= *Buellia dubyana* (Hepp) Rabenh.) [10, 11, 13, 14, 38]
Rinodina immersa (Körb.) Zahlbr. in **BP 92707**
Rinodina oxydata (A. Massal.) A. Massal. (= *R. biatorina* Körb.) [10, 12]
Rinodina zwackhiana (Kremp.) Körb. [10, 13, 38]
Sarcogyne pruinosa (Sm.) Körb. [10, 12, 14]
Solorina saccata (L.) Ach. [4, 10, 13, 15, 18, 27, 38, 47]
Sphaerophorus fragilis (L.) Pers. (= *Lecanora fragilis* (Scop.) Zahlbr.) [10, 13, 38]
Sporastatia polyspora (Nyl.) Grumm. (= *S. cinerea* Kbr.) [10, 14]
Squamarina cartilaginea (With.) P. James (= *Lecanora crassa* Ach.) [10, 13, 38]
Staurothele bacilligera Arn. [9, 10, 14]
Staurothele caesia (Arn.) Th. Fr. [9, 10, 14]
Staurothele guestphalica (Körb.) Arn. (= *S. orbicularis* (Mass.) Th. Fr.) [9, 10, 14]
Staurothele hymenogonia (Nyl.) Th. Fr. [10, 14]
Staurothele rupifraga (Mass.) Arn. [9, 10, 14]
Synalissa symphorea (Ach.) Nyl. [6, 12]
Thelidium decipiens (Nyl.) Kremp. (= *Amphoridium crassum* (Mass.) Serv., *T. absconditum* (Kremp.) Rabenh., *T. immersum* Mudd) [9, 10, 12, 13, 14, 38]
Thelidium incavatum (Nyl.) Mudd (*T. umbrosum* Arn.) [9, 10, 11, 13, 38]
Thelidium minutulum Körb. (= *T. acrotellum* Arn., *T. circumvallatum* Zsch.) [9, 10, 13, 38]
Thelidium pyrenophorum Mudd (= *Involucrothele pyrenophora* Ach.) [9, 10, 12]
Thelidium thuringiacum Zsch. [9, 10, 12]
Thelidium zwackii (Hepp) Mass. [9, 10, 12]
Thyrea confusa Henssen (= *T. pulvinata* (Schaer.) Mass.) [10, 12, 14]
Toninia aromatica (Turn.) Mass. [10, 14]
Toninia candida (Web.) Th. Fr. (= *Thalloedema candidum* (Web.) Mass.) [10, 14, 27, 35, 48]
Toninia opuntioides (Vill.) Timdal in **BP 92708**
!Toninia subnitida (Hellb.) Hafellner et Türk (= *Catillaria tristis* (Th. Fr.) Th. Fr.) in **BP 92484**
Toninia tabacina (DC.) Flagey [10, 13, 38]
Toninia toniniana (A. Massal.) Zahlbr. (= *Thalloedema toninianum* Mass.) [10, 13, 38, 48]
Umbilicaria grisea Hoffm. [10, 16, 18, 38]
Verrucaria anceps Kremp. (= *Polyblastia anceps* (Kremp.) Serv.) [9, 10, 11, 14]
Verrucaria apomelaena (Mass.) Hepp [9, 14]
Verrucaria baldensis A. Massal. [34]

Verrucaria calciseda DC. (= *Amphoridium calcisedum* (DC.) Serv.) [9, 10, 11, 12, 13, 14, 38]
Verrucaria caerulea DC. in Lam. et DC. (= *V. amylacea* Hepp in Arn., *Involucrothele plumbea* (Ach.) Serv.) [9, 10, 11, 13, 38]
Verrucaria cryptica Stnr. [9, 10, 13, 38]
Verrucaria cyanea Mass. (= *V. pulicaris* Mass.) [9, 10, 11, 12, 14]
Verrucaria dolosa Hepp (= *V. floerkeana* DT. et Sarnth.) [9, 10, 11, 12, 14]
Verrucaria dufourii DC. in Lam. et DC. (= *Involucrothele concinna* (Borr.) Serv. [9, 10, 12, 13, 38]
Verrucaria fischeri Müll.-Arg. [9, 10, 14]
Verrucaria foveolata (Flörke) A. Massal. (= *Amphoridium dolomiticum* Kremp., *A. veronense* Mass., *V. veronensis* Mass.) [9, 10, 11, 13, 14, 38]
Verrucaria fusca Pers. ex Ach. [9, 10, 12, 14]
Verrucaria fuscella (Turn.) Ach. [9, 10, 14]
Verrucaria hochstetteri Fr. (= *Amphoridium hochstetteri* (Fr.) Mass., *A. koerberi* Arn., *A. mastoideum* Mass., *V. arnoldii* Stnr.) [9, 10, 11, 12, 13, 14, 38]
Verrucaria lecideoides (A. Massal.) Trevis. [9, 10, 15, 17, 38]
Verrucaria margacea Wahlenb. (= *Thelidium leightonii* Choisy) [10, 12]
Verrucaria marmorea (Scop.) Arn. (= *Amphoridium marmoreum* (Scop.) Baroni) [9, 10, 12, 14]
Verrucaria muralis Ach. (= *Amphoridium rupestre* Mass., *V. rupestris* Schrad., *V. submuralis* Nyl.) [9, 10, 11, 12, 13, 14, 38]
Verrucaria murina Leight. (= *Amphoridium myriocarpum* (Hepp) Serv.) [9, 10, 12, 13, 14, 38]
Verrucaria nigrescens Pers. [9, 10, 11, 12, 13, 14, 38]
Verrucaria parmigerella Zahlbr. [34]
Verrucaria tristis (Mass.) Kremp. [9, 10, 12]
Verrucaria viridula (Schrader) Ach. in **BP 92709**
Xanthoparmelia conspersa (Ehrh. ex Ach.) Hale [2, 10]
Xanthoria elegans (Link) Th. Fr. (= *Caloplaca elegans* (Link) Th. Fr.) [10, 14]

Non-lichenized species

Microthelia scabrida Lahm [9, 10, 14]
Polycoccum marmoratum (Kremp.) D. Hawksw. (= *Microthelia marmorata* (Kremp.) Koerb., *M. m.* f. *minor* (Kernst.) Keissl.) [9, 10, 11, 14]
Verrucaria phaeosperma Arn. (= *Phaeosporis phaeospermum, Amphoridium phaeospermum* (Arn.) Serv.) [9, 10, 14]

Considering our own collection (38 species) the proportion of growth forms is similar in tendency to the list of species summarized from the former collections. Most of them belong to the crustose growth form with the dominance of calcicolous *Caloplaca* (8) and *Verrucaria* (6) species. The number of the placoid species is remarkably high (7) from the following genera: *Caloplaca*, *Candelariella*, *Diplotomma*, *Lobothallia*, *Protoparmeliopsis*. Very few species (*Collema*, *Dermatocarpon*, *Physcia* and *Xanthoria*) represent the foliose growth form, and no any fruticose species were found up to now.

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COMPLETĂRI LA STUDIUL FLOREI LICHENOLOGICE DIN MUNŢII TRASCĂULUI (JUDEŢUL ALBA, ROMANIA)

(Rezumat)

Munţii Trascăului (Mţii Apuseni, jud. Alba) prezintă un relief foarte variat cu culmi şi clipe calcaroase cu înălţimi mijlocii (1100–1300 m). Domină substratul calcaros de proveniență jurasică. Cercetările botanice din această zonă au început încă din anul 1812 (Baumgarten), regiunea fiind ulterior studiată de majoritatea botaniştilor transilvăneni ai secolelelor XIX şi XX. Cele mai recente studii floristice şi de vegetaţiei îi aparţin lui Gergely şi Şuteu [28, 29, 30, 31, 32, 33, 42, 43].

Flora lichenologică a acestor ţinuturi este mai puţin cunoscută. Barth [1, 2] a fost primul care a colectat şi licheni din aceasta zonă. Aceste specii au fost publicate parţial de el însusi, apoi de Fuss [25, 26, 27], Hazslinszky [35], şi Szatala [44, 45, 46, 47, 48, 49]. In anul 1934 Gyelnik a colectat licheni pe aceste meleaguri, mai ales pe Piatra Secuiului, ulterior publicând rezultatele ca şi Räsänen in 1940. Toate aceste date le regăsim in lucrările lui Cretzoiu [15, 16, 17, 18] şi Moruzi [38]. Cele mai importante lucrări lichenologice publicate din Mţii Trascăului îi apartin lui Codoreanu şi Ciurchea [9, 10, 11, 12, 13, 14], care au publicat 146 specii de licheni din Cheile Întregalde, Valea Feneşului, Masivul Bedeleu şi Cheile Râmetului.

Studiile noastre s-au realizat în anul 2000, la Colţeşti, de unde s-au recoltat 16 specii saxicole, şi în anul 2005, pe versantul vestic al Pietrii Secuiului, unde s-au recoltat 38 specii de licheni, dintre care 36 sunt saxicole, şi 2 corticole. Având în vedere listele floristice publicate anterior, s-au identificat 13 specii noi pentru Mţii Trascăului, dintre care 3 sunt specii noi pentru România – *Caloplaca coronata*, *C. polycarpa* şi *Toninia subnitida*.

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