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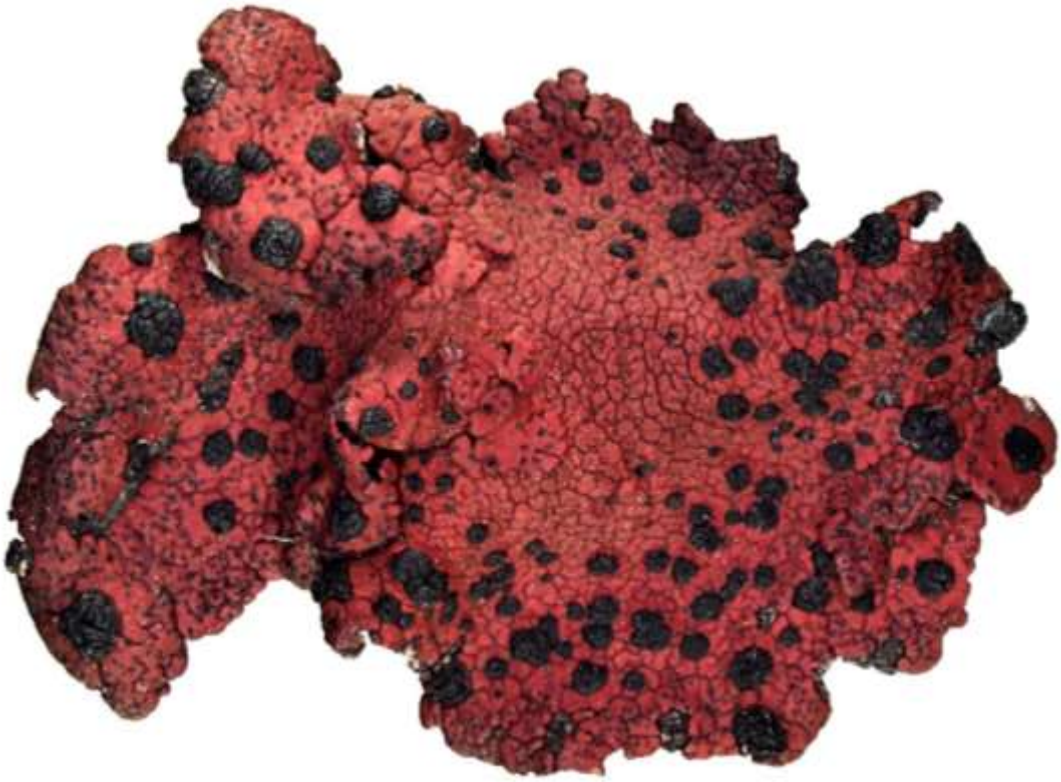

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INTERNATIONAL ASSOCIATION FOR LICHENOLOGY

The **International Association for Lichenology (IAL)** promotes the study and conservation of lichens. It organizes symposia, field trips, and distributes a biannual newsletter. The activity of IAL can be followed on several social media platforms: IAL YouTube channel, IAL Facebook page, IAL X account. People wishing to renew their membership or become members of IAL are requested to pay their membership fee (one payment of 30 EUR for 2021-2026) using PayPal or by bank transfer. All details available at http://www.ial-lichenology.org/.

The **International Lichenological Newsletter** is the official publication of IAL. It is issued twice a year (July and December) in English. Previously published newsletters are available at https://ial-lichenology.org/newsletters/. The *Newsletter* is divided into four main sections: 1) **Association news**: official information concerning the Association, such as minutes of Council meetings, proposals of Constitutional changes, new members, changes of addresses, etc. 2) **News**: information about lichenologists, institutional projects, herbaria, requests of collaboration, announcements of meetings, book reviews, etc. 3) **Reports**: reports of past activities, short lectures, obituaries, short historical novelties, etc. 4) **Reviews**: presentation of recent progress and other topics of interest in lichenology with optional discussion.

Any information intended for publication should reach the Editor on or before June 10 and November 10 for inclusion in the July and December issues, respectively.

IAL affairs are directed by an Executive Council elected during the last General Meeting. Council members elected at the virtual IAL9 Symposium (Bonito, Brazil, 2021) are listed below, and will serve until 2026.

IAL COUNCIL 2021-2026

President: François Lutzoni, Department of Biology, Box 90338, Duke University, Durham, NC 27708, USA. Email: francois.lutzoni@duke.edu

Vice President: Marcela Eugenia da Silva Cáceres, Departamento de Biociências, Universidade Federal de Sergipe, Av. Vereador Olímpio Grande, s/n, 49500-000, Itabaiana-SE, Brasil. Email: mscaceres@hotmail.com

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Webmaster: Silvana Munzi, CE3C - Centre for Ecology, Evolution and Environmental Changes & CHANGE – Global Change and Sustainability Institute, Faculdade de Ciências, Universidade de Lisboa, Campo Grande, 1749-016 Lisbon, Portugal. Email: ssmunzi@fc.ul.pt

ASSOCIATION NEWS

LETTER FROM THE PRESIDENT

Dear friends and members of the IAL,

The second half of 2025 has been intense. The level of activities associated with the organization and final preparations for IAL10 (Trieste, Italy) has been ramping up steadily. Nevertheless, **the IAL council took the bold decision to initiate the process of officially registering the IAL as a non-profit association**. As you all know, this is long overdue. One of the main reasons this is urgently needed, is the requirement by banks to have the IAL officially registered for them to provide their services legally. The lack of basic transactional services has been impeding the IAL to the point that we need to act.

The registration of an international association is complex and time-consuming. In addition, it can be costly. In collaboration with members of the IAL Council, I have been exploring multiple options. I am happy to report that Mauro Tretiach and Lucia Muggia have presented to the IAL Council a viable path for the registration of the IAL in Italy. I want to take this opportunity to thank them for all their efforts to solve this long-standing issue. We are currently trying to implement this plan, which will require changes to the IAL constitution. As you know, any change to the IAL constitution requires a vote from IAL members. The current constitution allows us to have this vote before our general meeting (IAL10). We are currently drafting changes to the IAL constitution that are required for the registration of the IAL in Italy. As soon as the IAL Council reaches a consensus for these necessary changes to the IAL constitution, we will send these proposed changes to all IAL members for a vote. If you have any concerns or suggestions, please do not hesitate to contact me (francois.lutzoni@duke.edu).

It is important to recognize that there is no guarantee we will be successful in registering the IAL before IAL10. There are many obstacles ahead. However, if we do succeed in registering the IAL in Italy, it will be important that at least one of the two treasurers be Italian. Please remember that you, as a member of the IAL, can nominate candidates for officer positions. Please see the announcement from the Nomination Committee in this issue of the ILN, which asks you to nominate candidates for the next election. Your involvement is crucial to the vitality of the IAL.

On that note, I strongly encourage everyone to read the article “IAL10 organization updates” below. It includes several important deadlines. Also, several travel grants have a deadline at the end of this month (December 2025). You can explore travel grants available for IAL10 using this URL https://ial10.units.it/?page_id=8713. A new travel grant is being offered by the ABLS with a deadline of January 23, 2026 (see the announcement below). If you plan to nominate someone for one of the IAL awards to be presented at IAL10, the deadline is January 31, 2026 (see the reminder in this issue of the ILN). If you plan to submit a proposal to host the next IAL congress (IAL11), your proposal needs to be sent to me by February 28, 2026 (see the invitation below). Your participation and engagement are greatly appreciated!

Warm regards and best wishes for 2026,

François Lutzoni, Durham, North Carolina

IAL10 ORGANIZATION UPDATES

Dear IAL members,

Although it seems to be far in the future, the IAL10 congress is approaching and we are starting to be very busy with the organization. For the best logistic organization we kindly remind you of the following deadlines, which cannot be extended:

- **Congress registration**, under *Participate → Registration* (https://ial10.units.it/?page_id=8986), the registration is independent from the abstract submission. Registration is possible also without submitting an abstract. **Early bird registration closes on 1 March 2026**, Regular registration closes 16 July 2026.

- **Abstract submission** closes **15 January 2026:** for oral contributions, flash talks, or posters, under *Participate → Abstract submission* (https://ial10.units.it/?page_id=8265)

A registered participant can be the presenting author (first author) of only one oral presentation/flash talk, while there is no limit to the number of times a person can be co-author on other abstracts or the presenting author (first author) of posters.

The systems for registering to the congress and submitting an abstract are independent, as you can submit an abstract till the abstract submission deadline, while you can register to the congress till the very last day. Early bird registration is suggested.

- **Scientific programme outline**, under *Programme → Scientific Programme* (https://ial10.units.it/?page_id=8827)

The Scientific Programme will be defined in its final form only after abstract submission closure.

The Organizing Committee has agreed with Pensoft to organize **a special issue in the Journal *MycoKeys*** hosting the proceedings of the IAL10 congress. Authors presenting any contributions at the IAL10 are welcome to prepare their scientific papers for this special issue that will be published in May 2027.

- ***Special Issue,*** *The "Proceedings of the 10th International Conference of the International Association for Lichenology" will be hosted in a Special Issue of MycoKeys in 2026, check for submission and publication schedule* under *Programme → Special Issue.* (https://ial10.units.it/?page_id=9162)

MIND THE DATES:

- Registration to excursions close **15 December 2025**
- Abstract submission closes **15 January 2026**
- **Early bird registration closes 1 March 2026**
- Regular registration closes **16 July 2026**
- Submission contributions to MycoKeys Special Issue "Proceeding of the IAL10" close **30 November 2026**

We are looking forward to host you in Trieste, Italy, 26–31 July 2026!

Lucia Muggia, IAL10 President, on behalf of the IAL10 Organizing Committee

TRAVEL GRANTS TO ATTEND IAL10 SYMPOSIUM FROM ABLS

We are delighted to share that the American Bryological and Lichenological Society will be supporting four, $500 travel grants to support early career members travel to the International Association for Lichenology Symposium in Trieste, Italy.

To apply, complete this form by January 23, 2026.

Application website address: https://forms.gle/oyW4G3Ct4RihKCy29

To be eligible to receive a travel grant applicants must meet the following criteria:

- live and be conducting research in the Americas (Central, North, or South America).
- be registered for the IAL10 meeting.
- present a poster or give a talk at IAL10.
- be a member of ABLS.
- defended their MS or PhD on or after September 30th, 2020.

Additional details regarding the application can be found on the application form website.

Sincerely,

Jessica Allen
President-Elect
American Bryological and Lichenological Society

ANNOUNCEMENT FROM THE NOMINATION COMMITTEE

The 10th international meeting in Trieste is quickly approaching, and the time has come to think about the election of a new IAL council. We are calling for nominations for IAL council officers –President, Vice-President, Secretary, Treasurer, Assistant Treasurer, Editor, and three Council Members at Large. According to the IAL constitution, any member of the IAL may submit nominations or be nominated. Nominations, to be valid, need the written consent of the nominee and must include short description of the background and rationale what this candidate may bring to the organisation in this position. The deadline for submissions is May 1st, 2026 and should be send to e-mail: *ave.suija@ut.ee*.

Hence, we are waiting for your proposals!

Troy McMullin (tmcmullin@nature.ca),
Manuela Dal Forno (mdalforno@brit.org)
and Ave Suija (ave.suija@ut.ee)

REMINDER – CALL FOR NOMINATIONS FOR IAL10 AWARDS

As we look ahead to the 10th Symposium of the International Association for Lichenology (IAL10), to be held in Trieste, Italy, from July 26–31, 2026 (https://ial10.units.it/), we remind the lichenological community that nominations for the IAL10 Awards are open. These awards recognize outstanding contributions across all career stages, from emerging researchers to those whose work has had a profound and lasting impact on the field.

We warmly encourage all IAL members to nominate individuals whose work exemplifies excellence in lichenology and who deserve recognition for their scientific, educational, or community-building efforts. Please review the award descriptions and nomination requirements below:

1. Acharius Medal

This award honors the lifelong achievements of outstanding lichenologists. Established in 1992, it is granted to one or more recipients. Nominations must include an email from two nominators and the CV of the nominee.

2. Dharani Awasthi Award

This award is aimed at young researchers residing in low-income countries who have completed their PhD within five years before the nomination deadline (January 31, 2026). Nominations must include a CV, a copy of a document showing the date the PhD was obtained, and two letters of support.

3. Mason Hale Award

This award recognizes excellence in research by young lichenologists for work resulting from doctoral theses or similar studies. Only graduate students who defended their dissertation between February 1, 2024, and January 31, 2026 (inclusively) are eligible. Nominations must include a letter of justification, a PDF of the dissertation (or a link to a Dropbox account or similar, where the document is stored), a CV, and a copy of a document showing the date when the PhD was obtained.

4. Aino Henssen Award

This award is for emerging researchers who have completed their PhD within five years before the submission deadline. Nominations must include a letter of justification, a CV, a copy of a document showing the date the PhD was obtained, and two letters of support.

5. Sylvia Sharnoff Education Award

This award recognizes outstanding educational websites devoted to lichens, prepared by students or educational institutions at any level. The site may be in any language and can include any aspect of lichen biology used in an educational program. Nominations must include the website link and a justification explaining why the site deserves recognition.

Nominations must be submitted by someone other than the nominee and should include all required documents specified for each award, accompanied by a detailed justification from the nominator. Both the nominee and the nominator must be members of the IAL.

The deadline for submitting nominations is **January 31, 2026**. All nominations must be submitted by email to **Julieta Orlando** (*jorlando@uchile.cl*) and **Marcela Caceres** (*mscaceres@hotmail.com*) simultaneously. The email subject line should state **"IAL Award Nomination"**.

For more information about awards and previous recipients, visit: https://ial-lichenology.org/awards/.

Let's take this opportunity to celebrate the exceptional people who are advancing the field of lichenology around the world.

IAL Awards Nomination Committee

INVITATION FOR PROPOSALS TO HOST THE NEXT IAL CONFERENCE (IAL11)

The IAL Council herewith invites proposals for hosting the IAL11 Conference, which we propose should take place in 2029.

Because of the pandemic, many scientific societies had to shift their conferences by one or two years. The IAL is no exception. By 2029, we will have met only twice since IAL8 in Finland in 2016. with meetings 5 years apart (IAL9 in 2021, which was virtual only, and IAL10 to be held in 2026). To return to the usual 4-year schedule as stipulated in the IAL constitution, and to be in regular alternation with the International Mycological Congress (IMC, which is also usually occurring every four years), the IAL Council proposes to schedule IAL11 in 2029. The resulting three-year cycle is transitional and would immediately realign the IAL conferences to the usual, pre-pandemic, four-year meeting schedule in alternance with the IMC every two years. The only difference is that we would be meeting on odd years instead of even years.

This is how this would unfold:

IMC12: 2024 The Netherlands

IAL10: 2026 Italy

IMC13: 2027 South Korea

IAL11: 2029

IMC14: 2031

IAL12: 2033

IMC15: 2035

The formal decision on when to schedule IAL11 will be taken at the general meeting to be held at IAL10 (July 26-31, 2026) in Trieste, which is also when IAL members will vote on which country will host IAL11.

Proposals to host IAL11 should be sent to the IAL president François Lutzoni (francois.lutzoni@duke.edu) and include a description of the city or location and venue with a brief summary of the relevant infrastructure and potential local committee members. Bids should be sent before February 28, 2026.

Countries hosting IAL Conferences so far are:

IAL10 – Italy (Trieste) 2026 - forthcoming

IAL9 – Brazil (Bonito, online) 2021

IAL8 – Finland (Helsinki) 2016

IAL7 – Thailand (Bangkok) 2012

IAL6 – USA (Asilomar) 2008

IAL5 – Estonia (Tartu) 2004

IAL4 – Spain (Barcelona) 2000

IAL3 – Austria (Salzburg) 1996

IAL2 – Sweden (Båstad) 1992

IAL1 – Germany (Münster) 1986.

François Lutzoni, IAL President

NEWS

THE DAY WE LOOKED FOR HAPTERA IN A SPECIMEN OF *XANTHORIA*

Lichens are always full of surprises, even in common species that you think you know well. We often take for granted the concepts we've learned from books, definitions we've used and repeated many times. But sometimes lichens cause confusion in our definitions of traits.

As part of the *Handbook of Lichenology* project, we wanted to illustrate the attachment structures of lichens. This meant finding good examples of the structures we are describing…. and this is where there is room for confusion! It led to intense conversations between us and with other lichenologists about the attachment traits in lichens; such as haptera, rhizines and rhizohyphae, tomentum and hypothalli.

The hapter or attachment disc (from the Greek *hapto* to attach) presents a problem as its definition and use varies in the lichen literature. We treated it as an 'organ of attachment formed at the points of contact of closely appressed foliose lichens with the substrate' (Swinscow & Krog 1988). With this in mind, we selected a commonly occurring lichen, *Xanthoria parietina,* to illustrate the trait. This species is tolerant of pollution and strong solar radiation and especially widespread in cities, agricultural areas, and other human-influenced landscapes. But precisely because *X. parietina* is easily recognizable at first glance, and the haptera is not an important taxonomic character for *Xanthoria*, it is neglected or even recorded instead as rhizines in some floras. Haptera – attachment discs – or their torn remains are found on any specimen of *Xanthoria parietina* when you remove them from the substrate, but we still do not have an illustration of them!

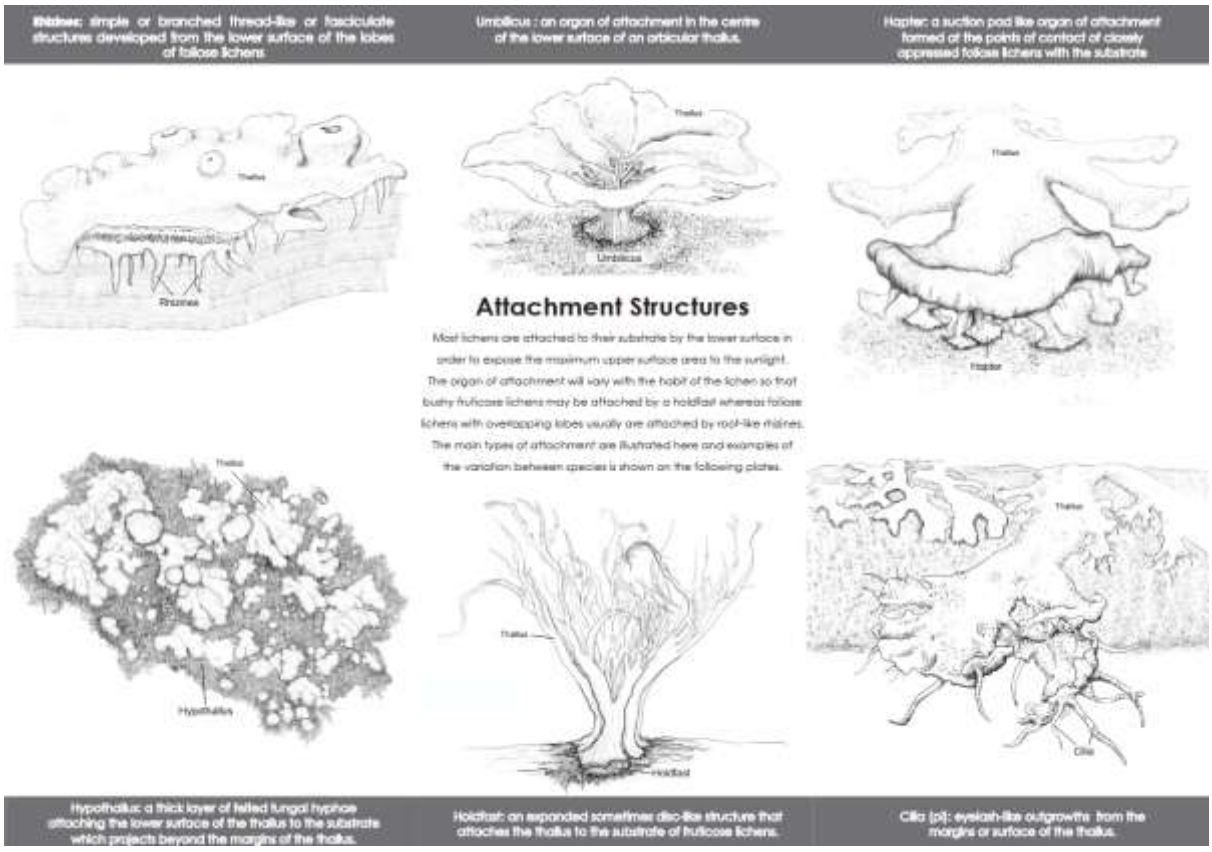

Illustration of attachment structures by Maria del Pilar Santamaria Motta.

Lots more questions arise about attachment traits - does tomentum originate only from the cortex? What is the relationship between tomentum and hypothallus? Distinctive traits for genera like

Erioderma and *Phyllopsora?* – see Felix Schumm's beautiful illustrations in his Archive for Lichenology. We want to make the *Handbook of Lichenology* useful to all students by including examples of traits from species that are adapted to a range of environmental conditions from the poles to the tropics, so we look forward to your comments, suggestions and photos.

Visit the page of the project "Handbook of Lichenology" here.

Swinscow, TDV & Krog, H 1988: *Macrolichens of East Africa*. British Museum (Natural History), London. 390 pp.

Silvana Munzi, Adriano Spielmann, Pat Wolseley & Maria del Pilar Santamaria Motta

LECTURE SERIES: LICHENS AND THEIR SYMBIOTIC PARTNERS: AN OVERLOOKED BIODIVERSITY

Real Instituto de Estudios Asturianos (RIDEA; Royal Institute for Asturian Studies).
Oviedo, Asturias, Spain
In collaboration with Project CIPROM24-044
Excellence in Research, Generalitat Valenciana
5th COMMITTEE on Science and Technology

Lecture series 2025-2026
LICHENS AND THEIR SYMBIOTIC PARTNERS:
AN OVERLOOKED BIODIVERSITY
Coordinators:
TOMÁS E. DÍAZ GONZÁLEZ, Emeritus Professor, University of Oviedo,
RIDEA Full member
EVA BARRENO RODRÍGUEZ Emeritus Professor, University of Valencia,
RIDEA Corresponding member

December 3, 2025

Title: LICHENS: AN OVERLOOKED BIODIVERSITY. TREASURES FOR NATURAL PRODUCTS

Prof. PRADEEP K. DIVAKAR, Department of Pharmacology, Pharmacognosy, and Botany, Faculty of Pharmacy, Complutense University of Madrid (UCM), Spain

December 15, 2025

Title: SYMBIOTIC NETWORKS: HIDDEN BIODIVERSITY IN LICHENS

Prof. PATRICIA MOYA, Cavanilles Institute of Biodiversity and Evolutionary Biology, (ICBIBE). Department of Botany and Geology, University of Valencia (UV), Spain

December 22, 2025

Title: LICHENS: AN EXAMPLE OF FLEXIBLE SYMBIOSIS. THE ART OF SELECTING A COMPANION FOR EVERY OCCASION

Prof. FRANCISCO GASULLA, Department of Life Sciences. Area: Plant Physiology, University of Alcalá (UAH), Spain

Ciclo de Conferencias 2025-26

Comisión 5ª RIDEA: Ciencia y Tecnología

"LÍQUENES Y SUS SIMBIONTES: UNA BIODIVERSIDAD IGNORADA"

Coordinadores: TOMÁS E. DÍAZ GONZÁLEZ y EVA BARRENO RODRÍGUEZ

3 DIC 19 h

LOS LÍQUENES: BIODIVERSIDAD IGNORADA. TESOROS DE PRODUCTOS NATURALES

Prof. PRADEEP K. DIVAKAR

Dpto. de Farmacología, Farmacognosia y Botánica, Facultad de Farmacia, Universidad Complutense de Madrid

15 DIC 19 h

SIMBIOSIS EN RED: LA BIODIVERSIDAD OCULTA EN LOS LÍQUENES

Prof. PATRICIA MOYA

Instituto Cavanilles de Biodiversidad y Biología Evolutiva (ICBIBE)
Dpto. Botánica y Geología, Universitat de València

22 DIC 19 h

LÍQUENES: SIMBIOSIS FLEXIBLES. EL ARTE DE ELEGIR PAREJA PARA CADA OCASIÓN

Prof. FRANCISCO GASULLA

Dpto. Ciencias de la Vida, Área: Fisiología Vegetal, Universidad de Alcalá

8 ENE 19 h

LOS LÍQUENES: BIOMONITORES DE ALERTA TEMPRANA ANTE EL CAMBIO GLOBAL. Ignorados en el Inventario Nacional de Biodiversidad

Prof. EVA BARRENO

Instituto Cavanilles de Biodiversidad y Biología Evolutiva (ICBIBE), Dpto. Botánica y Geología, Universitat de València

SALÓN DE ACTOS del RIDEA ···· Plaza de Porlier nº 9, 1º. OVIEDO
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Proyecto de Excelencia Prometeo CIPROM 2024-044

REAL INSTITUTO DE ESTUDIOS ASTURIANOS

Principado de Asturias
Consejería de Cultura, Política Lingüística y Deporte

Diseño: cálido.es

January 8, 2026

Title: LICHENS: EARLY WARNING BIOMONITORS FOR GLOBAL CHANGE. Overlooked in the National Inventory of Biodiversity

Prof. EVA BARRENO, Cavanilles Institute of Biodiversity and Evolutionary Biology (ICBIBE). Department of Botany and Geology, University of Valencia (UV), Spain

All the lectures will take place at 19 h.

VENUE: RIDEA Auditorium , Pl. Porlier, 9, 33003 Oviedo, Asturias. RIDEA's offices are located in the Palace of the Counts of Toreno and Malleza, which was designed by the renowned architect Gregorio de la Roza and completed in 1675. It was almost entirely rebuilt in 1957. The façade is notable for its interesting Baroque elements and the coats of arms flanking the balconies. The interior courtyard is supported by Tuscan columns.

A short history about this Institution:

The Royal Institute of Asturian Studies (RIDEA) is an autonomous cultural entity of the autonomous community of the Principado de Asturias. It has significant assets and is funded by the Regional Ministry of Culture and Language Policy of the Autonomous Government.

https://ridea.asturias.es/inicio

https://www.youtube.com/@rideaasturias1194/featured

Its objectives focus on “research and the promotion of work and studies aimed at preserving, enhancing and increasing the scientific, cultural and artistic heritage of the Principality of Asturias, and more specifically that related to Asturias”. The organisation currently has several tools dedicated to dissemination, collaboration with other entities, and the promotion of its activities, such as official newsletters, social networks, and electronic magazines.

The Library, Newspaper Library and Archives of the Royal Institute of Asturian Studies (BARIDEA) are responsible for storing and managing numerous Asturian bibliographic and documentary heritage collections.

Social and cultural work involves organising academic events, which are free of charge, either independently or in collaboration with other institutions. These events include lecture series, tributes, conferences, recitals and book presentations on a wide variety of topics, such as archaeology, history, literature, anthropology, economics, law, biology and ecology. In addition, guided tours are organised, and the facilities are loaned to similar entities.

New monographs are published each year, either independently or as part of the publisher's collections, in addition to periodicals such as the Humanities and Social Sciences Bulletin, the Science and Technology Bulletin, the Asturian Popular Culture Notebooks, and other academic publications including annual reports, opening and closing lectures and inaugural speeches.

Eva Barreno

REPORTS

FIRST SYMPOSIUM OF ALPINE LICHENOLOGY: THE BEGINNING OF A TRADITION?

The **Paneveggio-Pale di San Martino Natural Park** is a particularly important area for Alpine lichens: despite representing just 0.06% of the Alpine territory, it hosts 30% of all lichen species reported across the entire mountain range. This is due both to the extraordinary features of the area protected by the Park – which displays high environmental, geological, and climatic heterogeneity – and to its long history of lichenological exploration. The first studies in this regard were conducted by the Bavarian lichenologist Ferdinand Arnold, who carried out extensive research in the second half of the 19th century. In the 20th century, this exploration was continued mainly by the lichenologists of Graz, chiefly Prof. Josef Poelt and Prof. Josef Hafellner, whereas in recent decades Prof. Juri Nascimbene (University of Bologna) mainly carried on this tradition. The knowledge accumulated over more than 150 years of lichenological explorations has led to the compilation of a checklist of the lichens found in the Park and in neighboring areas, reaching an extraordinary total of 916 infrageneric taxa.

The logo of the First Symposium of Alpine Lichenology (*Credits: Cristina Zorzi & Gabriele Gheza*).

The **First Symposium of Alpine Lichenology** took place in the Paneveggio-Pale di San Martino Natural Park from Tuesday, July 1st to Friday, July 4th. Conceived as a joint initiative by the lichenologists of the BIOME Lab (University of Bologna) and the Park, the Symposium aimed to serve as a meeting and discussion point for the many lichenologists who conduct their research in the Alps and in other comparable mountain systems, in a location of high significance for lichenological studies.

The Symposium sessions, which included 17 oral presentations and 11 poster presentations, addressed the main research topics currently characterizing the international lichenological landscape: biology, biodiversity, ecology, and conservation, with particular focus on the challenges posed by climate change and the alteration of natural habitats. The four invited talks, held by Professors Juri Nascimbene, Martin Grube (University of Graz), Christoph Scheidegger (Swiss Federal Institute for Forest, Snow and Landscape Research) and Pier Luigi Nimis (University of Trieste), offered participants the opportunity to explore a wide range of compelling topics through the voices of leading experts. The two excursions allowed the participants to observe the Park's extraordinary lichen biodiversity in the field, exploring a siliceous rock route in the subalpine zone around the Cavallazza-Colbricon area, and a calcareous rock route in the montane zone of Val Canali. The programme also included the public outreach event **"Alla scoperta del misterioso mondo dei licheni"** (Discovering the mysterious world of lichens), held by Prof. Pier Luigi Nimis at the public library of Fiera di Primiero, aimed at disseminating the importance of studying lichens to the general public.

The well-balanced mix of conference, social and field moments allowed the participants to in-depth discuss the many topics covered and to build relationships in a friendly and relaxed atmosphere, with the breathtaking view of the Dolomites all around. The richness of the programme and the balance of these moments were surely the strengths of this Symposium, along with the excellent logistical organization overseen by the Park staff.

The opening of the Symposium (*Photo: Chiara Vallese*).

Group photo at the end of the Symposium (*Photo: Maurizio Salvadori*).

Field excursion on Mount Cavallazza (*Photo: Maurizio Salvadori*).

Lichenologists at work during the field excursion in Val Canali (*Photo: Gabriele Gheza*).

Field excursion at the Colbricon Lakes (*Photo: Zuzana Fačkovcová*).

The First Symposium of Alpine Lichenology was organized by the Paneveggio-Pale di San Martino Natural Park in collaboration with the lichenologists of the Universities of Bologna (Department of Biological, Geological and Environmental Sciences, BIOME Lab) and Graz (Department of Biology), with the scientific endorsement of: Società Lichenologica Italiana (SLI), Association Française de Lichénologie (AFL), Bryologisch-lichenologisch Arbeitsgemeinschaft für Mitteleuropa (BLAM), Schweizerische Vereinigung für Bryologie und Lichenologie (BRYOLICH), British Lichen Society (BLS), Nordisk Lichenologisk Förening (NLF) and Società Botanica Italiana (SBI).

Lichenologists at work during the field excursion in Val Canali (*Photo: Gabriele Gheza*).

The event is currently one of a kind, but there is hope that the informal and enjoyable atmosphere, paired with the rich and high-level scientific contributions, will pave the way for **a recurring meeting of Alpine lichenologists**, organized in turn by different host institutions.

Gabriele Gheza, Martin Grube & Juri Nascimbene

BIODIVERSITY SURVEY, JONDARYAN, 6-8 OCTOBER 2023

The inaugural intensive survey of biodiversity in the Jondaryan area was held over the weekend of 6-8 October, 2023. Jondaryan is a small town located on the Warrego Highway 45 km west of Toowoomba (Queensland, Australia). The survey was the initiative of Habitat Jondaryan, an informal consortium of stakeholders that seeks to promote and achieve the conservation and enhancement of woodland and other habitats in the Jondaryan area. The objective was to expand and deepen the collective knowledge of Jondaryan's biota, and to create a baseline on which to inform best-practice management of the area's woodland, grassland and creek-line habitats.

The study area extended about 3.5 km in radius from the centre of the Jondaryan township and consisted of four properties of 5 to 35 hectares, plus some highway and council road reserves. One was [a private nature refuge] and another was ... unallocated state land at the time; the others were private land used intermittently for cattle grazing. [Location details are withheld for privacy reasons and to protect sensitive species.]

All surveyed areas held stands of woodland dominated by yarran *Acacia melvillei* and/or weeping myall *A. pendula*, often with some poplar box *Eucalyptus populnea*, belah *Casuarina cristata*, brigalow *A. harpophylla* and/or wilga *Geijera parviflora*. Considerable natural regeneration of these trees/shrubs has occurred. Grassland containing a mix of native and exotic species was present to varied extent on three of the survey areas.

The survey brought together participating landholders, renowned experts in plants and vertebrate and invertebrate animals, and additional recruits were secured from local organisations – Toowoomba Bird Observers, BirdLife Australia (Darling Downs group) and Toowoomba Field Naturalists. It was not a monitoring exercise, so varied levels of knowledge and field skill were welcome. All participants were volunteers. [Initially the event was called a "bioblitz" but, as this might imply a funded activity, it was later changed to "biodiversity survey".]

Briefing sessions and sign-ons were held each morning at Jondaryan Woolshed, where many of the participants obtained accommodation indoors or by camping. The 32 participants were organised into five teams, each of up to eight members, with primary focus on birds (2 teams), insects, plants, and reptiles. At least one recognised expert was assigned to each team. In view of the number of participants, size of properties and access considerations, each team was sent to two properties each day over three days, covering four in total with some replication. Additional activities including nocturnal searches and trapping were conducted at one site; the [nature refuge].

Records of species were documented according to Queensland or national protocols; bird records were stored using BirdLife's mobile phone app, Birdata. At the request of some landholders, records from their properties were marked as private or otherwise not disclosed to the wider public until the landholder had reviewed the records. No vertebrates were collected and in the end it was not possible to conduct bat surveys. Some insects, plants, fungi and lichens were collected to enable identification in the laboratory. All participating experts held the necessary permits and approvals for their survey work.

The general view of organisers, leaders, experts and other participants was that the 2023 Jondaryan biodiversity survey was a successful exercise and that further such events would be well worth considering. Dry conditions enabled easy access to all survey areas and although windy at times,

weather during the event did not have major negative impact on the outcomes. Future events of similar type would be desirable late in the wet season (March-April), to record plant, insect and other species that were not detected in the dry conditions of October 2023."

I put together the above quoted text from some of the circulars and reports sent out by the organisers of the survey. I thank Rod Hobson and Roger Jaensch for allowing me to reproduce their material here as it sums up the event beautifully.

I was a member of the "plants" team and I was responsible for the fungi and lichens during the survey.

The weather that year had been extremely dry. It was so dry that everyone – locals and visitors alike – were extremely worried about bushfires, and rightfully so as parts of the Western Downs were ablaze only a couple of weeks later.

The nature refuge (*Photo: Vanessa Ryan*).

Surveying the unallocated state land (*Photo: Vanessa Ryan*).

Because of the severe lack of rain I hadn't expected to find many macrofungi, if any. My focus was on collecting lichens as I knew that, despite the arid weather, there would still be plenty of those around. However, little did I know that the weather would affect my collecting in other ways.

Lichens rely directly on their surroundings for water and tend to match the water levels of their immediate environment – if the air is dry, they also become dry. A small number of the foliose lichens I attempted to collect were so dry that, as I carefully sliced them from their bark substrates, they crumbled into tiny fragments. These, sadly, had to be discarded as they were not suitable for an herbarium collection.

As also mentioned in the organisers' report, it was very windy at times. Frustratingly, more of my attempted collections were lost as they gaily sailed away into the unknown on a perfectly timed gust.

I was a little disappointed that I couldn't collect many saxicolous lichens – lichens that grow on rocks. It wasn't because there was a lack of lichens – there were lots – it's because there was a significant lack of *rocks* in the places I was collecting.

Since there was a (deliberately) limited number of people participating in the survey, we were asked if we could help out the other teams by reporting to them anything of their interest that we might have seen. I dutifully photographed some fresh koala scat (the koala itself was nowhere to be seen), a skink (later identified as an elegant snake-eyed skink, *Cryptoblepharus pulcher pulcher*), a grasshopper (bark-mimicking grasshopper, *Coryphistes ruricola*), and the egg case of a preying mantis (large brown mantid, *Archimantis latistyla*).

A number of times over the weekend I was shyly approached by fellow volunteers who had, in turn, collected a lichen for me. The following interaction usually ran along the lines of: "Have you seen

this before?" and I'd be handed a twig with little clumps of what looked like bright orange fluff growing on it. "Yes," was my response. "It's a pretty little *Teloschistes*. Thank you!" Now, I'd only seen a few tufts of this particular lichen during my own exploration of the sites. However, from the number of specimens that were collected over the weekend, anyone could be forgiven for thinking that the area was dripping with the stuff. This was a perfect example of sampling bias. These lichens are typically bright orange in colour and bushy in shape – quite different to the predominant white and grey crustose and foliose lichens – and so they naturally caught a collector's attention.

The magnificent tuft at the top of the stick (*Photo: Vanessa Ryan*).

Which lichen did you see first? Grey or orange? (*Photo: Vanessa Ryan*).

On the last day of the survey, another fellow team member excitedly handed over a stick covered in a magnificent collection of lichens. "Isn't it wonderful!" she exclaimed. "Do you know what it is?" It took me a moment to focus from the many onto what would be, to the untrained eye, the star attraction. She was referring to the largest of the lichens perched atop the twig along with some smaller leafy and lobed lichens. It was a *Ramalina celastri*, one with very broad and long lobes scattered with dainty perforations and abundant white apothecia. "It's a *Ramalina* and it's absolutely awesome", I responded. "But look here... all these other lichens growing with it are also great to have! Thank you so much!" I was rewarded with a surprised and slightly puzzled look, so I began pointing the lichens out, slowly rotating the stick and counting as I went… "One, two, three, four, five…" She peered at the lichens, her eyes widening in curiosity. "Oh?" She had been so focused on the huge tuft that she hadn't noticed all the fuzzes, crusts and smaller leafy lichens that inhabited the rest of the stick. She then laughed. "Oh!"

I am extremely grateful to those fellow volunteers who took the time to collect fungi and lichen specimens for me. A couple of people in particular showed a keen interest in learning more about fungi and lichens and I did my best to answer their questions.

Everyone was so friendly and helpful, and I was greatly impressed by how extremely well organised the event was.

The final, detailed report for the 2023 survey was published in March 2024. At the time of release there were still 15 lichen collections that I had not yet managed to identify. These have since been identified to at least genus, and I must thank my fellow lichen volunteers at the Queensland Herbarium (BRI), Ailsa Holland, Sally Sylvestris and Helen Cuk, for their assistance. The text below is taken from my section of the report and it has been updated with the completed data.

Methods

Surveys were conducted at the four target properties, a road reserve and a private garden. The search method was informal, where the surveyors walked the area searching for specimens. There was one

dedicated fungi/lichens surveyor, but many incidental collections were also made by other participants during their own surveys, some of which were significant finds.

Specimens were collected using the methods prescribed for fungi and lichens by the Queensland Mycological Society and Queensland Herbarium, and are as follows:

1. Specimens were chosen that were in good condition, included structures useful for identification purposes, and had an appropriate amount of material suitable for destructive study with enough pristine material remaining to be a good herbarium collection.
2. Each collection was given a unique identification number. A small paper tag with the number and a scale on it was assigned to be kept with the collection.
3. At least three photographs were taken of each collection – a) the habitat, including the location of the specimen; b) the specimen in situ, including its identification tag; and c) the collection in situ without the tag and any other distractions.

Numbered paper tags with scale next to lichens growing on a rock. Number 21 (orange lichen) has been identified as *Caloplaca aequata*. Number 22 (grey lichen), is thought to be an *Amandinea* sp. (*Photo: Vanessa Ryan*).

4. The specimen was collected in a manner such that what it was growing on was disturbed as little as possible.
5. The lichen collections were each placed with the appropriate paper identification tag into a paper bag or, if fungal, wrapped together in aluminium foil.
6. Field notes were taken as the collections were made. These notes included the date of the collection, the location, who made the collection, the identification number, a simple description or, if known, the name of the specimen, what it was growing on, habitat and associated organisms. Other observations of significance were also noted.
7. All tools and implements, including footwear, were cleaned and disinfected at the end of each day of the survey.
8. All specimens, with their associated data, were submitted to the Queensland Herbarium. This data is periodically loaded automatically into the Atlas of Living Australia and Australia's Virtual Herbarium.

Lichen Results

The total number of lichens collected was 76. Two were discarded due to severe crumbling after collection. The remaining 74 collections have been identified at least to genus; 60 to species level.

It is interesting to note that some unconscious sampling bias occurred during the survey. The inexperienced collectors were drawn to collect more *Teloschistes* species, as those lichens are typically bright orange-coloured tufts and quite different from the predominant grey crusts. Also of note is that three *Teloschistes* were found growing on another lichen, *Parmotrema austrosinense.* Other members of the Teloschistaceae family are known to be lichenicolous – parasitic on other lichens.

A great number of *Pyxine* specimens were collected. Three species of *Pyxine* have been previously collected from the area, two of which were also collected during this survey. *Pyxine petricola* was by far the dominant species.

There was a significant lack of saxicolous (rock-living) lichens, due to the search areas not being rocky in nature.

Of most interest to the survey participants was the collection of the Resurrection Lichen *Xanthoparmelia semiviridis.* This lichen is very unusual in that it is vagrant (vagant) – that is, it doesn't grow attached to a substrate. In dry weather its lobes curl into a ball and it is blown across the ground, sometimes forming large drifts. It has been collected previously from the Jondaryan area.

List of lichen species recorded for Habitat Jondaryan, 6-8 October 2023

Site Legend

Site 1 private nature refuge

Site 2 unallocated state land

Site 3 private land (east end)

Site 4 private land (west end)

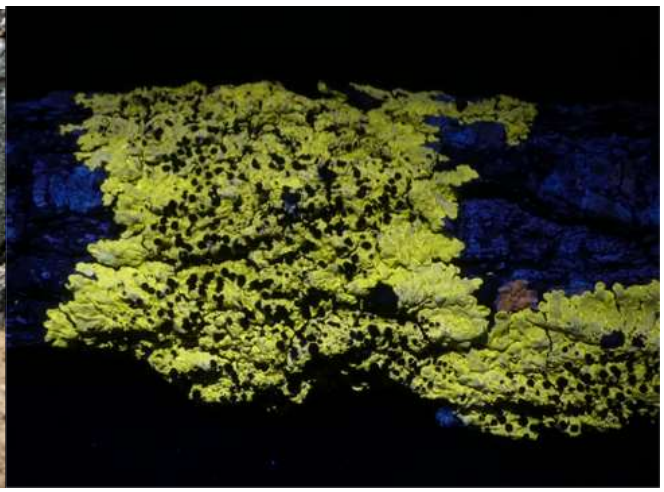
Site 5 road reserve

Site 6 private garden

Scientific Name	Collected	Substrate	Morphology	Site
Amandinea montana	1	Bark	Crustose	4
Amandinea sp.	1	Rock - basalt	Crustose	5
Arthonia spp.	2	Bark	Crustose	1, 2
Arthopyrenia cinereopruinosa	1	Bark	Crustose	2
Arthopyrenia sp.	1	Bark	Crustose	5
Caloplaca aequata	1	Rock - basalt	Crustose	5
Candelaria concolor	1	Bark	Crustose	1
Dirinaria spp.	2	Bark	Crustose	4, 5
Dirinaria subconfluens	2	Bark	Crustose	1
Flavoparmelia rutidota	4	Wood	Foliose	6
Haematomma persoonii	1	Bark	Crustose	1
Hypotrachyna subpustulifera	1	Bark	Crustose	4
Lecanora leprosa	2	Bark	Crustose	1, 5
Lecanora sp.	1	Bark	Crustose	1
Lepraria spp.	2	Bark	Crustose	4
Parmotrema austrosinense	9	Bark, wood	Foliose	1, 3, 4, 6
Parmotrema cristiferum	1	Bark	Foliose	1
Parmotrema sancti-angelii	1	Wood	Foliose	6

Scientific Name	Collected	Substrate	Morphology	Site
Pertusaria porinella	1	Bark	Crustose	4
Pertusaria spp.	2	Bark	Crustose	1, 5
Physcia crispa	1	Bark	Crustose	2
Physcia nubila	1	Bark	Crustose	1
Physcia undulata	1	Bark	Crustose	1
Pyxine petricola	13	Bark	Crustose	1, 2, 3, 4, 5
Pyxine subcinerea	1	Bark	Crustose	5
Ramalina celastri	5	Bark	Fruticose	2, 3, 4
Teloschistes sieberianus	8	Bark, wood, *Parmotrema austrosinense*	Fruticose	1, 2, 3, 4, 6
Teloschistes spp.	2	Bark, *Parmotrema austrosinense*	Fruticose	3, 4
Usnea sp.	1	Wood	Fruticose	6
Xanthoparmelia semiviridis	1	Free living	Foliose	3
Xanthoria parietina	3	Bark	Foliose	3

Pyxine petricola.



Pyxine petricola fluoresces bright yellow under ultraviolet light.

Conclusion

It has been estimated that in Australia there may be as many as 250,000 fungal species, of which less than 5% have been described and named. Around 4,000 of the named species form lichens. In

Teloschistes sieberianus (orange) with *Parmotrema* sp. (grey and brown) and mantid oocyst clustered together on a stick.

Resurrection lichen *Xanthoparmelia semiviridis* (*Photos: Vanessa Ryan*).

comparison, it's been estimated that Australia has around 25,000+ species of vascular plants, of which 90% have been formally described and named.

At Biosystematics 2023, the joint conference of the Australian Biological Resources Study, Society of Australian Systematic Biologists, Australasian Mycological Society and Australasian Systematic Botany Society, it was recognised that much more needs to be done on fungal taxonomy (including lichenised fungi).

At the time the Jondaryan Biodiversity Survey 2023's (JBS23) report was published, the Atlas of Living Australia listed 79 records of fungi and lichens in a 10 kilometre radius area centred on Jondaryan. The result of JBS23 added another 80 records, which encompass 12 additional genera and at least 19 more species. In that regard, JBS23 was extremely successful.

I have accepted an invitation to participate in the next Jondaryan survey which is to be held in late October 2025.

I can only hope that the weather won't be anywhere near as dry as it was in 2023. Or as windy!

Vanessa Ryan

60TH CONGRESS OF THE POLISH BOTANICAL SOCIETY

For the 60th time, the Polish Botanical Society, in cooperation with the University of Silesia in Katowice and the Medical University of Silesia, organized a congress that brought together biologists from across the country to share their latest discoveries. This year's conference, held under the motto "*The Nature of Change… With Botany into the Future*", took place in July in Katowice, recently designated by EuroScience as the European City of Science 2024.

All presentations and posters were divided into six interdisciplinary sessions, with lichenologists contributing to half of them: "Biology of plants, algae, fungi – the basis of their variability and classification", "Response of plants, algae, fungi to environmental factors, the mechanisms and effects of their interactions", and "Plant cover and its transformations".

Polish lichenologists presented a well-balanced range of topics. In taxonomy, for example, a new genus, *Arneparmelia*, was introduced (E. Ossowska, M. Kukwa, B. Guzow-Krzemińska). Other studies addressed intraspecific variability in *Haematomma ochroleucum* (M. Kukwa, B. Guzow-Krzemińska), the *Rhizocarpon geographicum* group (J. Jaskólska), and the tropical genus *Cora* (M. Oset, A. Flakus, B. Guzow-Krzemińska, M. Kukwa). The genetic variability of photobionts in yellow

Rhizocarpon species (J. Jaskólska) and in tropical members of the order *Peltigerales* (K. Ciborowski, E. Ossowska, M. Kukwa) was also explored.

Opening of the 60th Congress of the Polish Botanical Society (*source: pbsociety.org.pl*).

Emilia Ossowska's presentation about a new genus, *Arneparmelia* (*Photo: Rafał Szymczyk*).

Ecological studies also featured prominently. Researchers highlighted species-rich sites in Poland, including the Arboretum in Kórnik (A. Łubek, S. Wierzcholska, K. Nowak, A. M. Jagodziński),

Warmia and Mazury (D. Kubiak), Kolorowe Jeziorka (K. Szczepańska, E. Ossowska, M. Kossowska, R. Szymczyk, D. Reszewicz, A. Jabłońska, M. Kukwa), and Central Poland (M. Hachułka, K. Rutkowski, J. Maciejewska, M. Kossowska). Other presentations examined the ecological role of photophilous species such as larch (P. Czarnota, K. Przydział; or S. Wierzcholska, A. Łubek, M. K. Dyderski) and tree-related microhabitats (B. Olesik, A. Łubek, S. Wierzcholska). Noteworthy, too, was a long-term (20-year) study of the succession of epilithic lichens on rock surfaces exposed by removal of stone heaps created by tourists (M. Kossowska). Beyond these earthbound topics, lichenologists also presented results on the effects of simulated Martian conditions on metabolically active lichens (K. Skubała, K. Chowaniec, E. Latkowska, N. Szot, W. Kłapyta, M. Kowaliński, T. Mrożek, J. Bąkała, B. Myśliwa-Kurdziel).

In total, 14 oral presentations and posters were delivered, five of which were prepared by a team from the University of Gdańsk. As in previous congresses, the group led by Professor Martin Kukwa stood out for its scientific leadership.

At the end of the first day of the Congress, a ceremonial dinner took place in "Gyburstag" to celebrate the 50th anniversary of the Silesian Branch of the Polish Botanical Society. On the following day a few field trips were held, including 'Protection of the vegetation of the Silesian Beskids' and 'Orlich Gniazd Landscape Park', where we could admire typical limestone lichen species.

Abstracts of lectures and communications of the 60th Congress of the Polish Botanical Society are available at:

https://pbsociety.org.pl/default/wp-content/uploads/2025/06/60-Zjazd-PTB-Katowicach-Streszczenia.pdf

Julia Jaskólska

FIELD EXCURSION TO THE KACZAWSKIE FOOTHILLS

Participants: Buta Natalia, Darmostuk Valerii, Dimos-Zych Monika, Hachułka Mariusz, Jaskólska Julia, Kossowska Maria, Kukwa Martin, Ossowska Emilia, Rutkowski Krzysztof, Sira Olha, Szczepańska Katarzyna, Szczepański Andrzej, Szymczyk Rafał (*Photo: Rafał Szymczyk*).

At the end of summer, from 15 to 18 October 2025, members of the Lichenological Section of the Polish Botanical Society (*Polskie Towarzystwo Botaniczne*) met for a field excursion to the Kaczawskie Foothills, also known as the Land of Extinct Volcanoes. This area is one of three Polish UNESCO Global Geoparks preserving geological evidence of volcanic activity from three distinct periods: the Early Paleozoic (400–500 million years ago), the Early Permian (around 300–280 million years ago), and the transition from the Paleogene to the Neogene (35–15 million years ago).

Fieldwork in Małe Organy Myśliborskie (*Photo: Emilia Ossowska*).

The second night of identifying the collected specimens (*Photo: Rafał Szymczyk*).

During the trip, we explored several remarkable sites. On the first day, we visited Małe Organy Myśliborskie (the Small Myślibórz Organs), a basalt volcanic plug located in the Chełmy Landscape Park. On the second day, we explored Czartowska Skała (Devil's Rock), composed of Miocene basalts. In the evenings, gathered in our rustic cottage, we worked on identifying the collected specimens and examined some interesting lichens previously found in this region, such as *Aspicilia grisea* (VU), *Lecidella carpatica*, and species of *Rhizocarpon*.

A list of species recorded from this area can be found in the following publication:

https://doi.org/10.13158/heia.33.1.2020.9

Julia Jaskólska

EDUALGAE: "DEVELOPMENT OF NATURAL SWEETENERS FROM LICHEN MICROALGAE FOR PASTRY AND BAKERY PRODUCTS"

Project: **EDUALGAE: "Development of natural sweeteners from lichen microalgae for pastry and bakery products".** Innest/2023/264. European Regional Development Fund (FEDER) 2021–27 and Generalitat Valenciana. Director: Pedro Carrasco, BIOTECMED Institute, Universitat de València.

Trebouxiaceae microalgae are the most frequent lichen phycobionts. These lichen symbiotic microalgae (phycobionts) are capable of enduring harsh, restrictive, and rapidly changing environments. Relatively little is known about the full spectrum of bioactive compounds produced by these microalgae. To address this gap, we conducted a targeted metabolomics analysis using gas chromatography-mass spectrometry (GC-MS). This approach allowed us to profile a broad range of primary and secondary metabolites, including amino acids, fatty acids, sugars, and potential bioactive compounds.

The metabolite profiles of twenty-three microalgae were obtained by GC-MS analysis of methanol extracts from cultures grown on solid media for 21 days. We have identified a total of 398 different metabolites across the samples. Ribitol, a sugar alcohol, was the most significant contributor to the variance observed among the microalgae. There are also notable differences in the levels of other sugar alcohols, such as xylitol, sorbitol, and inositol, as well as other sugars like glucose and sucrose. Additionally, the amino acids proline and pyroglutamic acid contribute substantially to the variance between species, along with oleic and glycerophosphoric acids. All of the compounds that differed in their level of presence among the samples are fundamental molecules of central algal metabolism.

The most remarkable result of this analysis is the metabolic difference between those that accumulate large amounts of sugar alcohol or large amounts of a non-alcoholic sugar. The most abundant molecule in the majority of the species analysed is the polyalcohol ribitol. Polyalcohol are sweeteners that can replace sugar in a number of foods. The traditional methods to obtain polyols are based on the catalytic hydrogenation of xylose, processes that require a "significant amount of energy and resources" and depend on manual or semi-automated processes.

Figure from the EDUALGAE report 2025

The EDUALGAE project involves our team of research and the company Juan & Juan Industrial SLU-Vicky Foods, *https://www.vickyfoods.es/en/home/,* located in Gandía (Valencia), which manufactures pastries, bread and infant food products. The project aims to produce ribitol and other polyols from lichen microalgae. In this way, polyols would be obtained through more efficient and sustainable production methods with a smaller environmental footprint. To this end, we are investigating how to scale up microalgae cultivation and improve water removal through freeze-drying techniques, while also characterizing the different polyols, with a particular focus on ribitol.

Moreover, in the EDUALGAE project, we plan to partially or completely replace sugar with

sustainable, natural alternatives. These types of alcohols are used in low-calorie sweeteners for the food industry. In addition to the environmental benefits, this initiative's approach offers nutritional and public health advantages, as it helps reduce the calorie content and glycemic load of foods "without the need for artificial sweeteners."

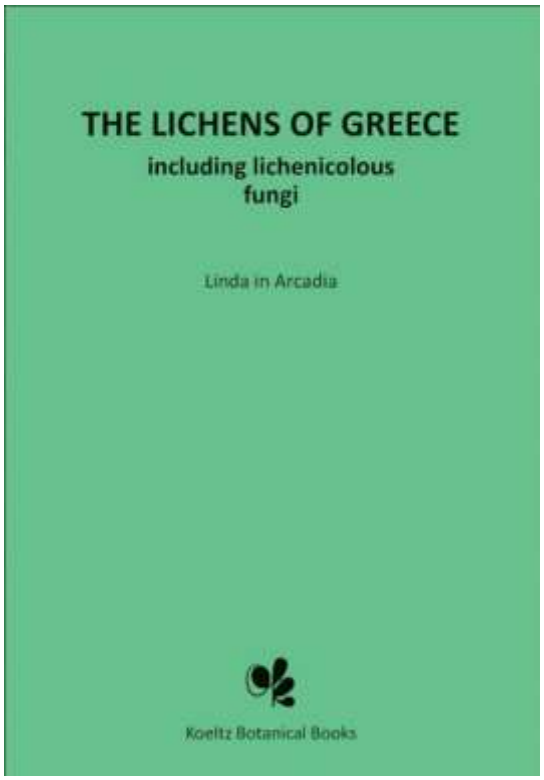
Pedro Carrasco & Eva Barreno

PROMETEO 2021/005, PROMETEO/2021/005, CIPROM2024-044

NEW BOOKS AND PUBLICATIONS

BOOK REVIEW

Linda in Arcadia (2025) The Lichens of Greece including lichenicolous fungi. Koeltz Botanical Books, Schmitten, Germany. ISBN 978-3-946583-54-7. 739 pp., Hardcover, EUR 148.00 (+ 7% VAT for EU-residents without the European VAT-ID)/ US$ 176.10 + shipping.



Lichenological research in Greece has a long history (Abbott 2009). In recent decades, research has been intensified due to improved access by the charter tourist industry. Linda in Arcadia stimulated floristic research by publishing the first checklist of Greek lichens (Abbott 2009). This was not a mere compilation. Many of the included taxa were discussed in relation to taxonomy and reliability of the published records. Her second major contribution, also a valuable tool in floristic research, is the Atlas of Greek lichens (Arcadia 2025). It includes dot maps of the 1551 lichen taxa known from Greece. Considering the varied topography and geology of Greece, spanning multiple vegetation zones, this is not a very high number. Future floristic research will undoubtedly result in an increase in this number.

Now a third monumental work, The Lichens of Greece, has been published by L. Arcadia. The Flora has the following sections: 1. Introduction, 2. Acknowledgments, 3. A note for beginners, 4. A note on nomenclature, 5. Keys to genera, 6. Taxonomic section (in alphabetical order of genera), 7. References, 8. Glossary and Abbreviations, 9. Appendix: Classification of the fungi, 10. Index including genera and species epithets. The Flora has no textbook chapters which would have added unnecessarily to the length of the book and are actually superfluous in a flora like this. In the Introduction, the author addresses some of the shortcomings of preparing a flora for a country that is not thoroughly investigated lichenologically. The author has compensated for this by including in the keys a number of species not known from Greece but are considered likely to occur. In my view the Flora is as comprehensive as possible for Mediterranean and sub-Mediterranean Greece, but care should be taken if used for lichens collected in the mountains where unrecorded taxa are expected to occur.

The intention of the Flora is dual: 1. to stimulate the interest in lichen research by the Greeks and 2. to meet the current scientific standards. This is a difficult task. The author has dealt with the problem by having the keys meet the scientific standards and having attached notes at a large number of couplets to guide the beginner through difficult choices. Also, the section "Glossary and

Abbreviations" provides a detailed explanation of the technical terms. For example, for the spot tests a detailed description on how to conduct the tests is given. I am not sure the author has succeeded in this dual purpose. I can imagine, that only the most dedicated novices can manage successfully with the keys of this kind of flora without guidance from an experienced person. Irrespective of the level of competence, the reader may find something of interest in the notes and explanations. After a first reading, experienced lichenologists can simply ignore these notes.

The keys are of the intended type, often with more than two couplets (like in Clauzade & Roux 1985). In the "Generic key: Main groups" the reader would have benefited from page references. The keys of the main groups, such as "Foliose lichens", and of those of the genera, I have tried, work well. As mentioned above, the keys contain many notes guiding the user to correct determination. For example, couplet 55 page 16, separating *Melanelixia* from the other "*Melanelias*" by the C+ red reaction: The reaction is unmistakable but may be confined to upper part of medulla. Do not test where thallus has been abraded, exposing the medulla, as upper part of medulla may then be missing. A reviewer can always find things he would have done differently. As to the keys I have tried, I have very few suggestions. For example, in the "Generic key 10E: Crustose with rounded apothecia; ascospores coloured" couplet 33 distinguishes *Diplotomma* from *Buellia* by having distoseptate ascospores as opposed to the euseptate ascospores of *Buellia*. This difference can be hard to distinguish. It might have been better to have the species of *Diplotomma* incorporated in the *Buellia* key using other characters. This approach has been used in the *Collema* key where some cyanophilic genera are incorporated: *Blennothallia, Lathagrium, Rostania, Scytinium,* and *Staurolemma*.

Descriptions of genera begin with the place of publication, the type of the genus and the family to which it belongs. A short list of literature of relevance for Greek material is given. This is followed by a detailed description based on Greek specimens studied by the author. The world distribution and the taxonomy of the genus is discussed, followed by its occurrence and ecology in Greece. The description of the species follow the same pattern, except for little known species, where the user is referred to relevant literature.

There are also many notes throughout the text on taxonomy and nomenclature of both genera and species. They may be of interest of taxonomists in general. An examples of a nomenclatural note is *Physconia grisea* subsp. *algeriensis* "(Flagey)" Poelt (1966)…..The name cited, here and elsewhere, as basionym is a nomen nudum, and the nomenclature needs to be clarified. A number of re-combinations intended for publication elsewhere are included in the The Flora. F. ex. *Ricasolia laciniata* (Huds.) ined. …. Unfortunately, Moncada, Lücking al. [sic!] (2013) took up the wrong name, *R. amplissima*, for this species when they resurrected the genus *Ricasolia*, evidently not troubling to note the correct epithet in *Lobaria* is *L. amplissima* only because the name *L. laciniata* (Huds.) Vain is a later homonym, and thus not available in *Lobaria*. Another example of general interest is *Ochrolechia poriniza* (Nyl.) ined. *Pertusaria poriniza* Nyl. (1874), Flora 57 (1): 8-9; *O. macrospora* Verseghy; *O. pseudotartarea* (Vain.) Verseghy; *O. szatalaensis* Verseghy; (?) *O. upsaliensis* auct. Graec. There are further nomenclatural notes in the text. F. ex. on *Rinodina exigua* and *Strangospora moriformis*. Taxonomic notes may be exemplified by: *Protoblastenia* (Zahlbr.) J. Steiner …. Differs from *Psora* in having a crustose thallus, and apothecia that are usually orange. However, *Protoblastenia macrocarpa* and *Psora testacea* cut across this circumscription of the genera, and their boundaries may need revision. Further unsolved taxonomic problems are pointed out. F. ex. *Lecidella elaeochroma/L. euphorea* and *Hypogymnia farinacea/H. laminisorediata*. Beside the above kind of notes, personal opinions are given here and there. F. ex. under *Tuckermannopsis chlorophylla*: The interminable shuffling of species between genera in Parmeliaceae continues, and this species was recently placed in *Nephromopsis*. That is the seventh genus in which it has been placed, and there is no reason to suppose that it has come to the end of its travels. The best way to discourage this sort of foolery may simply be to ignore it, which here I do. Another example worth citing is: *Xanthoparmelia* has a complex chemistry, and many species have been described on basis of minor differences in medullary chemistry. …..Using them uncritically to define species seems to

me as unwise as the old practice of giving formal recognition to very trivial variation in morphology. In my opinion, many of these "species" should be synonymised, or at least reduced to an infra-specific rank. This reviewer finds such personal statements welcome. Because, whether you agree or not, they make you think.

The Lichens of Greece is a valuable tool for those interested in Mediterranean lichens, and due to its many taxonomic and nomenclatural notes and personal comments, a wider lichenological community may find much of interest in this book.

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Steen N. Christensen

PERSONALIA

CELEBRATION OF THE 80TH BIRTHDAY OF PROFESSOR INGVAR KÄRNEFELT

An entire volume of **Acta Botanica Hungarica**, (67, numbers 1–3, 360 pp) is dedicated to professor Ingvar Kärnefelt on the occasion of his 80th birthday. The book is interdisciplinary, and was written by some of Ingvar's closest colleagues and friends. The initiator and managing editor was Laszlo Lökös with Serhii Kondratyuk, Mark Seaward and Arne Thell as guest editors. The volume contains 17 publications by 38 authors from ten countries. Currently, all publications have open access at the journal's home page:

https://akjournals.com/view/journals/034/67/1-3/034.67.issue-1-3.xml

The book was celebrated at Lund University on September 19th with many of the authors present, including a lecture by the well-known Hungarian lichenologist Edit Farkas entitled "Lichenological fields - Swedish effects". Although Ingvar celebrated his 80th birthday already last year, there was nothing

Lichen excursion in Lundagård, a park in central Lund: Laszlo Lökös, Edit Farkas, Serhii Kondratyuk, Tiina Randlane and Andres Saag (*Photo: Arne Thell*).

wrong with the party mood. In addition to Edit, her husband Laszlo Lökös, also a well-known lichenologist, stayed in Lund over the weekend to participate in excursions together with Tiina

Randlane and Andres Saag from Estonia, Serhii Kondratyuk from Ukraine, currently a guest professor at the Biological Department in Lund, and the hosts Arne Thell and Ingvar Kärnefelt.

Arne Thell

THE NEW FOREIGN MEMBER OF THE ROYAL ACADEMY OF SCIENCES IN SPAIN

Lumbsch, Thorsten was elected as a new foreign member of the Royal Academy of Sciences in Spain on September 24 (https://rac.es/noticias/444/). He is being honored as "his studies have transformed our understanding of the species diversity of this group, the history of its diversification, and its biogeography." He joins 104 other international members of the Academy.

LIST OF SOCIETIES

Australasia: Australasian Lichen Society. Info: W.M. Malcolm, Box 320, Nelson, New Zealand 7040. Phone: (+64) 3-545-1660, e-mail: *nancym@micro-opticspress.com*
Journal: *Australasian Lichenology*, web-page: http://nhm2.uio.no/botanisk/lav/RLL/AL/

Brazil: Grupo Brasileiro de Liquenólogos (GBL), contact: Dr. Adriano Afonso Spielmann, (e-mail: *adriano.spielmann@ufms.br*), e-mail: BrazilianLichens@gmail.com;
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Central Europe: Bryologisch-lichenologische Arbeitsgemeinschaft für Mitteleuropa (BLAM). Contact: Ulrike Ruprecht, Hellbrunner Straße 34, 5020 Salzburg, Austria, e-mail *ulrike.ruprecht@plus.ac.at*, web-page: http://blam-bl.de/
Journals: *Herzogia* https://blam-bl.de/herzogia/herzogia-ueberblick.html, *Herzogiella*, web-page: https://blam-bl.de/herzogiella-oben.html

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Journal: *Bryonora*, web-page: https://botanospol.cz/cs/bryonora

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Journal: *The Lichenologist* (accessible via Cambridge Core https://www.cambridge.org/core/journals/lichenologist); *British Lichen Society Bulletin https://www.britishlichensociety.org.uk/the-society/bls-bulletin*

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Journal: *Lichenology*, web-page: http://www.lichenology-jp.org/index.php/en/journal/

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The cover-page illustration

Umbilicaria phaea var. *coccinea* (Ascomycota: Umbilicariaceae) from Northern California (*Photo: R. Troy McMullin*).