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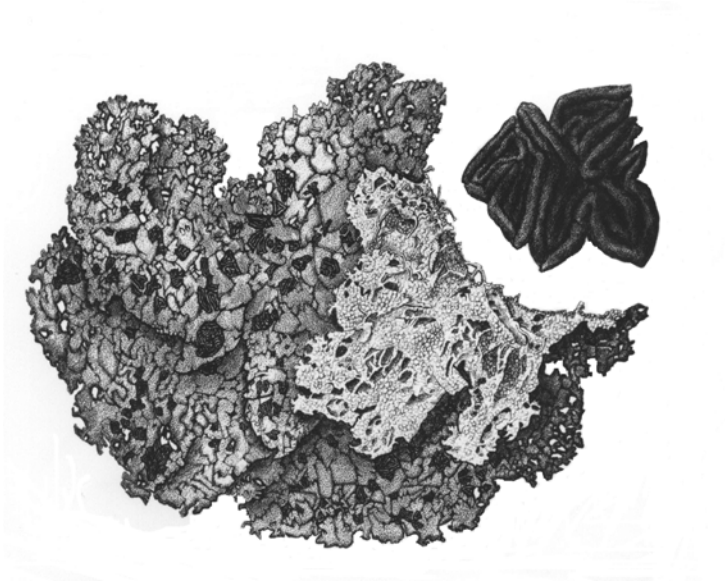

Official publication of the
International Association for Lichenology

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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. There is a listserver that enables on-line discussion of topics of interest. Webpages devoted to lichenology are also maintained by members of the Association. People wishing to renew their membership or become members of IAL are requested to send their subscription (one payment of 40 USD for 2012-2016) to either Treasurers.

The **International Lichenological Newsletter** is the official publication of IAL. It is issued twice a year (July and December) in English. The Newsletter is also available on the Internet. 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. When the material exceeds the available space, the Editor will prepare a summary, on prior agreement with the contributors.

Any information intended for publication should reach the Editor on or before **June 15** and **November 15** 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 IAL7 Symposium (Bangkok, Thailand, 2012) are listed below, and will serve until 2016.

IAL Council 2012-2016

President: Helge Thorsten Lumbsch, The Field Museum of Natural History, Department of Botany, 1400 S. Lake Shore Drive, Chicago, IL 60605-2496, USA. E-mail: *tlumbsch@fieldmuseum.org*

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ASSOCIATION NEWS

IAL9 – 2020

While we are looking forward to an important IAL meeting hosted by our Finnish colleagues with Marko Hyvärinen as chair of the local organizing committee, it is already time to plan for the following IAL meeting in 2020. Expressions of interest are invited from consortia willing to host IAL9 in 2020. These can be directed to me (tlumbsch@fieldmuseum.org) or any member of Council (preferably with a copy to me). The consortia interested in hosting the event in 2020 should be prepared to give a presentation on the venue at the IAL8 meeting in Helsinki.

Thorsten Lumbsch, Chicago

NEWS

Eagle Hill's Summer Field Courses 2015

Taught in Steuben, Maine by experts from the United States, Canada and Europe, our week-long courses focus on the natural history of one of North America's most spectacular and pristine natural areas, the coast of eastern Maine from Acadia National Park to Petit Manan National Wildlife Refuge and beyond. Course participants include beginning to advanced amateurs, graduate and undergraduate students, teachers, professional field biologists, university professors, and personnel from federal and state agencies and numerous environmental organizations.

Forthcoming courses

Aug 16 – Aug 22 *Lichens, Biofilms, and Stone* by Judy Jacob and Michaela Schmull

Aug 30 – Sept 5 *How to Know the Lichen Genus* Cladonia *and Its Parasites* by Richard Harris

Recent past

June 21 – June 27 *Lichens and Lichen Ecology* by David Richardson and Mark R.D. Seaward

June 28 – July 4 *Crustose Lichens: Identification using Morphology, Anatomy and Simple Chemistry* by Irwin Brodo

July 5 – July 11 *Calicioid Lichens and Fungi of the Acadian Forest* by Steven Selva

XVII Congress of European Mycologists, Madeira, Portugal

21–25 September 2015

The 17th Congress of European Mycologists will be held on the island Madeira, Portugal and is organized under the auspieces of European Mycological Association (EMA; http://www.euromould.org). The venue of the congress is located in the conference centre of the Vidamar Hotel in the island's capital, the city of Funchal.

Main thematic areas: 1) Cell biology, biochemistry and physiology; 2) Environment, ecology and interactions; 3) Field mycology and conservation; 4) Evolution, biodiversity and systematic; 5) Fungal pathogenesis and disease control; 6) Medical mycology and fungal pharmacology; 7) Genomics, genetics and molecular biology; 8) Applied mycology and fungal biotechnology.

31 August 2015 – Closing date for registrations on-line and accomodation

For further information: http://www.mundiconvenius.pt/eventos/2015/xviicem2015/

National Conference on Cryptogam Research in India:

Progress and Prospects, 28–29 September 2015

About the conference

Cryptogams are extremely diverse, widely distributed and a very important component of biodiversity. India, being a large and highly biodiverse country is a huge repository for cryptogam wealth as yet insufficiently explored. This lack of knowledge is not surprising since many cryptogams are microscopic, have cryptic life cycles, grow in inaccessible habitats, and lack dominant marker characters; therefore specialist skills are required for their identification. Cryptogamic studies have failed to attract many researchers and the present generation appears to be losing interest in basic research such as taxonomy. Although seminars and conferences on biodiversity are common in India, higher plants are mostly discussed and the role of cryptogams, other than fungi, is underestimated due to their poor representation. Thus to counteract this, the Indian Lichenological Society (ILS) will attempt to bring together all those researchers studying the cryptogams of India to a special conference, where participants will have an opportunity to discuss the achievements, scope and future challenges in their particular areas of research. Hopefully the conference will attract a younger generation to research in the diverse aspects of cryptogamic studies and ultimately establish a strong foundation for this in India.

Themes

In principle the conference will accept all abstracts relevant to cryptogams (algae, lichens, fungi, brophytes and pteridophytes), but some themes are recognized to help the authors in abstract preparation.

- Systematics and Diversity
- Ecology, Phytogeography and Conservation
- Biomonitoring, Biodeterioration and Bioprospecting
- Physiology and Biochemistry
- Pathology
- Reproductive Biology
- Biotechnology
- Paleobotany

Abstracts submission

The abstract should be within 500 words, prepared in MS Word, using Arial font, on 'Letter' sized paper with 1.5 line spacing and one inch margin on all sides. The sequence and specification for various headings are as follows, Title – in capitals, bold, font size 12. Author names – font size 10, bold, preferably provide full name (first, middle name followed by surname), avoid titles such as Ms, Mr, Shri, Dr, Prof, etc.; the presenting author's name should be underlined. Affiliations – keep the affiliations as brief as possible (Laboratory/Division/Department, Institute, city/town name, pin code, state); e-mail address of presenting author and/or corresponding author may be provided. Main abstract – font size 10, normal, start with 0.5 inch Tab; Keywords – maximum five, preferably different from the words used in title. The abstract(s) should reach the Organizing Secretary of the conference before 15 September 2015 by e-mail to: indianlichenology@gmail.com. The submitted abstract will be reviewed by the editorial committee and accepted abstracts will only be printed after receiving the registration fee.

Mode of presentation (Oral/Posters)

The presentation of papers by participants will be held in different parallel sessions within the host institute. The authors can choose the preferred mode of presentation, either as poster or oral, but a final decision will be taken by organizing committee depending upon the number of presenters. The oral presentation should be short and crisp, the maximum time allotted being 15 minutes, which may further reduce or extended depending upon the number of presenters. The poster may be flex or paper printed and the size should not be more than 36 (wide) x 48 (length) inches.

Awards and medals

There will be different awards and medals for the eminent personalities who have contributed significantly to the field of cryptogams in India. There will also be prizes for the best oral and poster presentations in different sessions.

Conference proceeding

Selected papers from the conference will be published in the form of a *Proceedings* by a reputed publisher. The authors would be contacted to submit a full length paper after the conference.

Registration Fee

Registration fees (in Indian Rupees), including conference kit, Guest House/Hostel accommodation and food, are as follows:

	Until 15 Sept.	After 15 Sept.
Life members of ILS	1800/-	2200/-
Annual members of ILS	2000/-	2400/-
Students #	1500/-	2000/-
Delegates	2500/-	3000/-
Accompanying person*	1500/-	1700/-

Students category refers to post-graduate students and research scholars who are not getting any fellowship or financial assistance. Participants availing themselves of this concession must produce a certificate for their studentship from their Supervisor or Head of the Department.

* Accompanying persons will not be provided with a conference kit.

The **registration form** is available at: http://indianlichenology.com/conferenceDownloads.aspx

Fee remittance details

All financial transactions should be made through the official account of the Society, so please draw 'Multicity' Cheque/Demand Draft in favour of 'Indian Lichenological Society' payable at Lucknow. The registration fee can also be paid through online transaction (NEFT) or by swiping debit or credit cards. However, please do not deposit cash in the account as it is liable for 'out station cash deposit' charges.

Details for online transaction

Account No.: 34349534762

Name: Indian Lichenological Society

Bank: State Bank of India

Branch: NBRI Lucknow (10173)

Address: National Botanical Research Institute, Rana Pratap Marg, Luckonw-226001

lFSCode: SBIN0010173

MICR Code: 226002051

Accommodation

Delegates will be accommodated in the Institute's Guest House and Youth Hostel. Since we have limited accommodation, it will be reserved on a first come first served basis for delegates who have paid their registration fee. The organizing committee reserves the right to allot accommodation to the participants and cannot ensure accommodation for late registered candidates.

Important Dates

Conference date: **28–29 September 2015**

Last date for abstract submission: **15 September 2015**

Last date for fee submission at regular rate: **15 September 2015**

How to reach the venue?

CSIR-NBRI is located at the heart of the Lucknow city, just 3.5 km from Lucknow Railway Station (LKO and UN) and about 15 km from Chaudhary Charan Singh International Airport. The city is well connected with transportation facilities such as rickshaws, taxi and city buses. Prepaid taxi service is also available at the railway station and airport.

Weather in Lucknow

At the end of September the weather at Lucknow will be warm and humid with temperatures ranging from 24 to 35° C, and a relative humidity around 65%. The sky should be clear and rain is generally not expected; each day should have about 12 hours of sunlight.

Organizing Committee

Patron: **Dr C.S. Nautiyal**, Director, CSIR-National Botanical Research Institute, Lucknow

Coordinator: **Dr P.B. Khare**, Chief Scientist, CSlR-National Botanical Research Institute, Lucknow

Convener: **Dr D.K. Upreti**, Chief Scientist, CSlR-National Botanical Research Institute, Lucknow

Organizing Secretary: **Dr Sanjeeva Nayaka**, Principal Scientist, CSlR-National Botanical Research Institute, Lucknow

Address for all correspondence:

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Principal Scientist, Lichenology Lab., CSlR-National Botanical Research lnstitute, Rana Pratap Marg, Lucknow-226001, U.P.

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REPORTS

Second International Conference "Lichenology in Russia: problems and perspectives"

St. Petersburg, Russia, 5-8 November 2014

A series of International Lichenological Conferences in St. Petersburg was established in 2006, the first one dedicated to V.P. Savicz on the 120th anniversary of his birth. The second, entitled "*Lichenology in Russia: problems and perspectives*", was held at the Komarov Botanical Institute of RAS in St. Petersburg (Russia) from 5 to 8 November 2014 to celebrate the 300th anniversary of the Botanical Institute and the 100th anniversary of the Institute of Cryptogamic Plants. Sixty participants from six countries attended a programme of oral and poster sessions, round table discussions and excursions. The official languages of the conference were Russian and English. The conference was organized by the lichenological team of the Laboratory of Lichenology and Bryology of Komarov Botanical Institute and funded in part by the Russian Foundation for Basic Research N 14-04-20149. Following registration, participants were officially welcomed by the Organizing and Scientific Committee. Each participant received an abstract book of the conference and the first volume of *The Lichen Flora of Russia* (2014). The following topics were covered in the scientific sessions: taxonomy, phylogeny, flora, biodiversity and regional floristic studies, ecology and conservation of rare lichen species. Three round table discussions dealt with proposals for the multivolume *The Lichen Flora of Russia*, compiling lists and choice of criteria in the Regional Red Data Books, and the correct use of the Russian language in lichenological literature. Participants made presentations on investigations carried out in European Russia, North Caucasus, Urals, South Siberia and Russian Far East, as well as Republic of Belarus, Turkey and Antarctic.

The official closure of the conference was preceded by a much appreciated lecture on the History of the Botanical Institute in St. Petersburg by Dmitry Geltman, Deputy Director of Institute. A final dinner was held in the Restaurant of the Botanical Garden Restaurant following the closing ceremony.

The group photo of the participants of the 2nd International Conference "Lichenology in Russia: problems and perspectives". Photo: Lagger Lothar

On Saturday, 8 November, two excursions were organized, the first to the Botanical Garden greenhouses (tropical route), followed by a bus tour around the city with the theme "*Flora in the architecture of St. Petersburg*".

Ludmila Gagarina & Ekaterina Kuznetsova, St. Petersburg

"Lichen ecology and identification" course

4–8 May 2015, Ekenäs, Sweden

The second part of the course "*Lichen ecology and identification*" was held in the Ekenäs Manor southwest of Stockholm. The first part of the course in March 2014 included lectures on various aspects of lichen ecology; the second part focused on species identification, with numerous field excursions, backed-up by identification in the laboratory in the evenings. The course was organized by the Swedish University of Agricultural Sciences (SLU) and funded by the Foundation of Lilli and Oscar Lamm, STIRS and ForBio. The course was taught by Professor Göran Thor from SLU. 18 participants from a total of ten different countries attended, some of which had been present on the first part of the course, but some only attended the second part.

Each day of the course started with a field excursion, during which we visited various different lichen-rich habitats present in this part of Sweden: grazed meadows with large old oaks, old coniferous and deciduous forests, *Alnus glutinosa* fens, churchyards with old trees, as well as calcareous and siliceous rock outcrops. Each of these habitats hosted different lichen communities, often with rare and red-listed species; these and other common indicator species were studied. We discussed not only how to identify these species, but also their ecology and habitat preferences. In this way, all participants learnt something useful and interesting – both those more experienced in lichen identification, as well as beginners. We also discussed the value of each of the visited habitats, the potential threats to them, and the possible measures that could be taken to maintain the habitats. In this way, we were provided with a very good overview of these lichen-rich habitats and their species.

During the field trips, we collected samples of different lichen species that were identified and examined in the laboratory. Specimens of the different species were arranged into an exhibition where they could easily be studied, and on the last evening we went through this exhibition together, looking once more at all the species we had seen during the week. In addition to species identification, all course participants gave short presentations during the evenings about their backgrounds and the range of lichen-related work they were doing – some working mainly on taxonomy, some on molecular studies, ecology, or conservation.

Ekenäs Manor, dating back to the 17th century, provided excellent surroundings for the course, being situated in the middle of beautiful Swedish countryside, with several lichen-rich habitats nearby. The atmosphere in the manor itself was quite unique, as all the interiors dated back to the beginning of the 20th century – completely different from most field stations! In addition,

Group photo in front of the Ekenäs manor. Photo: Zydrunas Preiksa

Looking at lichen species growing on old oaks in a grazed meadow. Photo: Aino Hämälainen

the staff at the manor were very hospitable and took a great care of us. All in all, I found the course very useful and inspiring, both for learning lichen species identification and for meeting other people working with lichenology, and I hope the course will continue to be arranged also in the coming years.

Aino Hämäläinen, Joensuu

New members

Shravan Kumar S. – Dept. of Post Graduate Studies and Research in Applied Botany, Kuvempu University, Jnanasahyadri, Shankaraghatta, Shivamogga, Karnataka 577451, India. E-mail: k.shravanakumar@yahoo.com

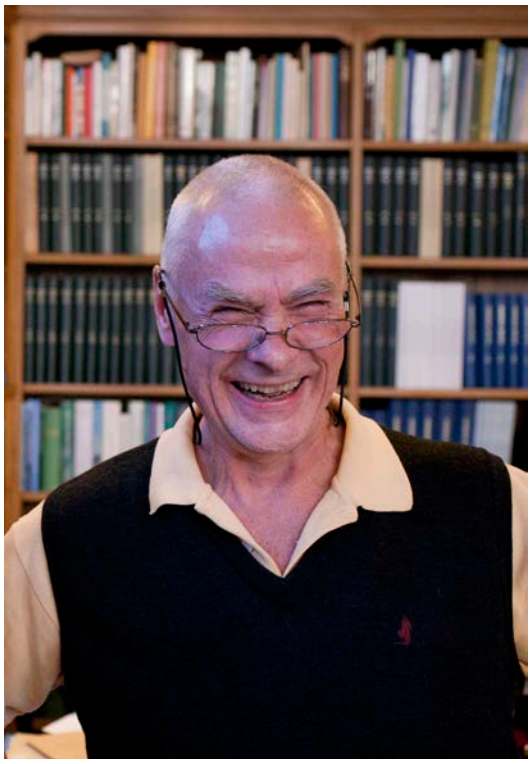
Dariusz Kubiak – Popieluszki 1/14, PL-10-693 Olsztyn, Poland. E-mail: dariuszkubiak72@gmail.com

Maonian Xu – Lindargata 42 room 202, Reykjavik, IS-101, Iceland. E-mail: xum1@hi.is

Anna Marika Bendiksby – Kjelsåsveien 133A, N-0491 Oslo, Norway. E-mail: mika.bendiksby@ntnu.no

PERSONALIA

Anders Tehler (Swedish Museum of Natural History, Stockholm) retires



31 October 2014 was Professor Anders Tehler's last working day at the Swedish Museum of Natural History (NRM). Anders was Head of the Department of Cryptogamic Botany between 1996 and 2013, when he stepped down as the result of a department re-organisation, to focus on his research until retirement.

Anders is probably best known for his work on Roccellaceae, including his PhD thesis (on *Dirina* and *Roccelina*; Tehler 1983). He was a member of a very active research environment in the Botany Department at the neighbouring Stockholm University (SU) led by Kåre Bremer and Hans-Eric Wanntorp during the 1970s and 1980s. Bremer and Wanntorp were very important as early promotors of phylogenetic thinking in Swedish and international systematic botany. The PhD students in their department were formally supervised by the professors at the NRM as SU lacked a Chair in Systematic Botany. Anders as a master's student was introduced to lichenology by Rolf Santesson, then the Head of Botany at the NRM, who was very enthusiastic and had a number of exciting projects to offer, among which Anders selected *Dirina* solely on aesthetic grounds. To some extent, Anders and his supervisor drifted apart during his thesis work, as Anders was very much influenced by the inspiring climate and attitudes in the research group and the intense and critical discussions about scientific philosophy and methodology that Bremer and Wanntorp encouraged. Not surprising his first scientific paper (Tehler 1982) was a critical discussion on the species pair

concept in lichenology, possibly one of the most debated and controversial contributions to the lichenological literature, and still much cited. After his successful thesis defence, he obtained an assistant professorship ("forskarassistent") at SU until 1991. When Bremer obtained the Chair at Uppsala University around 1989, Anders took on the role as scientific leader of systematic botany at SU. During these years he developed a strong interest in higher-level fungal phylogenetic systematics, producing the first phylogeny of the fungal kingdom (Tehler 1988) and consolidated his position as a leading Arthoniales systematist. When his position ended in 1991, Anders faced unemployment and was very close to leaving science, but managed to receive "rescue money" from the Research Council that saved him during 1992–1993. During this time he visited, and was very well received in, John Taylor's Laboratory at UCB (Berkeley, California, USA) to learn the new molecular techniques. In 1994 he finally managed to get his first permanent position as lecturer at SU, where he quickly built up a modern PCR-lab and started to recruit his own PhD students. Shortly after that he contributed four Arthonialean fungi to the first molecular large-scale fungal phylogeny, which was published in *Science* (Gargas et al. 1995). In 1996 Anders left SU to take up the Chair in Cryptogamic Botany at the Swedish Museum of Natural History in Stockholm.

During his time at the NRM, Anders introduced databasing of the collections, a result of which is the large and historically important cryptogamic collections of the herbarium (S) are among the best curated large collections, with 36% of the c. 1.5 million objects currently in the database. He devoted a lot of time and energy to the curatorial staff and was very active in doing hands-on databasing of both specimens and literature. The NRM provided excellent laboratory facilities and Anders had a very productive time, resulting in large and well-cited fungal phylogenies (Tehler et al. 2000, 2003) and several students defending their PhDs. He became heavily burdened by museum administration during the last decade there but finished his active research career by establishing a very successful collaboration with Damien Ertz, which continues the successful research into Roccellaceae and remaining Arthoniales (Ertz & Tehler 2011; Tehler et al. 2013; Ertz et al. 2015).

Anders retains a working space in the herbarium and looks forward to many active years to come. However, most of his future time will be spent on his grandchildren, his summer house, and learning how to fly. His colleagues and friends all around the world wish him a happy and healthy retirement!

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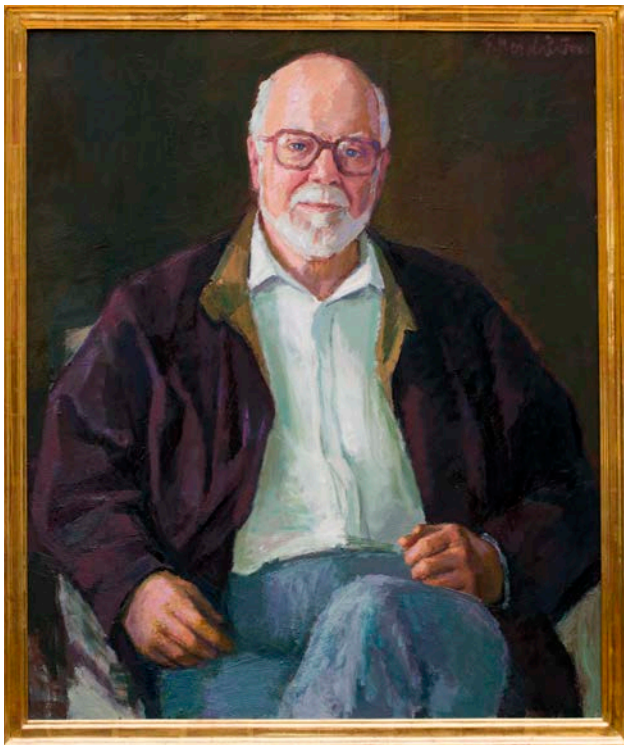
Mats Wedin, Stockholm

OBITUARIES

Hans Runemark, pioneer lichen monographer



Oil painting on canvas by Gerhard Nordström. Photo: Gunnar Menander

Hans Runemark, Professor of Systematic Botany at Lund University 1970–1992, passed away on 11 December 2014 aged almost 88 years. Although he was not well known as a lichenologist, he started his career at the Department of Systematic Botany, Lund University, in the late 1940s working on the yellow species of *Rhizocarpon*, with Ove Almborn as his supervisor. The work was completed in 1956, after which he left lichenology for a 'more attractive' project on the evolution of vascular plants in the Aegean islands. However, his work

on the yellow species of *Rhizocarpon*, published in *Opera Botanica* (Runemark 1956a, 1956b), still remains a useful contribution, and can be considered to be one of the first modern monographs. Runemark used paper chromatography as a new tool in lichen taxonomy and supplied the species descriptions with detailed distribution maps for the Nordic and European regions. A chapter in the first volume of methods and taxonomy clearly demonstrated that he attached great importance to paper chromatography for analysing secondary compounds in the lichen material he examined; anatomical characters of the asci and thallus were also used. Since Runemark was interested in genetics, one of his main targets was to use chromosome characters; however, he was unable to figure out any practical method for analysing the fungal symbiont to correspond with the cytological methods used in vascular plants for almost four decades.

Another publication which has been remarked upon as one of the first modern monographs in lichen taxonomy is *A Monograph of the Lichen Family Umbilicariaceae in the Western Hemisphere* by George Llano (1950) in that it pedagogically investigates a number of interrelated species or taxa within a large geographical area, namely the Western Hemisphere, from Greenland, North and South America and Antarctica. This work includes introductory chapters on morphology and anatomy, including easily understandable dichotomous keys and descriptions of the species (Brodo 2004). The book, printed in an unusual publication series, the Office of Naval Research, was carefully illustrated and is much more easily understandable when compared with former foundation volumes, many of which were published in Latin, such as those on *Cladonia* (Vainio 1887) and *Usnea* (Motyka 1936).

An early modern monograph, in a class by itself, is *Foliicolous Lichens 1* by Rolf Santesson (1952). This remarkable volume of almost 600 pages treats 236 lichen species occurring mainly on tropical leaves, and thereby does not cover a systematically delimitated group of interrelated species, but is a survey of an ecologically specialized group. The different entities were organized according to the system presented by the mycologist John Nannfeldt (1932) who classified the Ascomycota into ascolocular and ascomyhemial groups. In the 1950s this system replaced the Zahlbrucknerian system, Santesson having presented this view of classifying the lichens two years earlier in a paper during the 1950 International Botanical Congress in Stockholm (Tibell & Moberg 2014).

A third monograph from the same period of the early 1950s, namely *The Lichen Genus* Collema *in Europe* by Gunnar Degelius (1954) appeared in a more old-fashioned style describing 35 species in almost 500 pages, and one can imagine the difficulties finding key characters within such elaborate texts for each species. During the following decades we would see several splendid monographs that demonstrated the abandonment of earlier classical styles, one of the best being *The lichen genera* Cetrelia *and* Platismatia (*Parmeliaceae*) by William Louis and Chicita Culberson (1968) who presented a method to recognize taxonomic entities through correlating characters that combined both morphology and secondary compound chemistry (Brodo 2003). This was a major step forward at a time when the value of secondary compounds was heavily debated in the scientific community. A decade later, Brodo and Hawksworth (1977) were able to find a way to solve systematic problems among alectorioid lichens, demonstrating that genera could be based on correlating chemical and morphological characters, where size, shape and colour of the ascospores correlated with certain secondary compounds.

In view of present day research policies, the requirement for significant external funding and the necessity to see publications in top-rank journals, monographic work has probably seen its best days. Historically it is evident that monographs were to a large extent delivered by relatively young scientists with relatively secure employment in universities and natural history museums; unfortunately this is all too often not the case today. Hans Runemark was 29 years old at the time of his publication on the yellow *Rhizocarpon*, and William and Chicita Culberson were 39 and 37 years respectively, when they published their work on *Cetrelia* and *Platismatia*, David Hawksworth and Ernie Brodo were 31 and 42 years old when they published their work on the alectorioid lichens, and Rolf Santesson was 36 years old when he published his monograph on the foliicolous lichens.

It was hardly believed possible that Santesson's cornerstone monograph would have a successor in a foreseeable time, except from the author himself who had given his monograph the title *Foliicolous Lichens 1*. However, an even more comprehensive monograph, *Foliicolous Lichenized Fungi* by Robert Lücking (2008), comprising 866 pages and over 250 figures, was published as part of the *Flora Neotropica Project* by The New York Botanical Garden Press. The monograph treats an ecologically well-defined group of lichens growing on living leaves of vascular plats in the tropical rain forests of the New World. It covers more than 600 species in over 70 genera, 23 families and eight orders, probably 70% of the world's species of foliicolous lichenized fungi. Robert Lücking, a Research Collection Manager for Mycology at the Field Museum in Chicago, was 44 years old when this book was released. Later that same year he was awarded the prestigious Augustin-Pyramus de Candolle Prize for the best monograph of the year. Santesson never published a *Foliicolous Lichens 2*, but a most worthy successor in the shape of Robert Lücking responsibly carries this work forward.

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Ingvar Kärnefelt, Mark R.D. Seaward & Arne Thell

David John Galloway

7 May 1942 – 6 December 2014

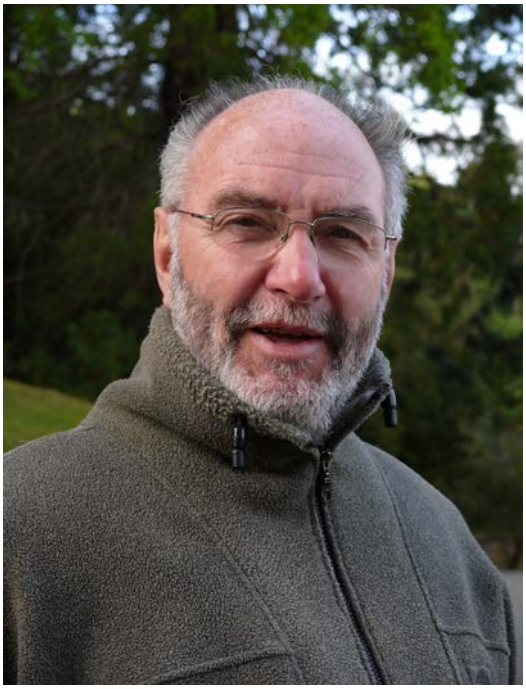


Fig. 1. David Galloway in Dunedin Botanic Garden, New Zealand, 16 October 2006. Photo: Lars Arvidsson

“New Zealand has a richly diverse and well-developed lichen flora, arguably one of the most interesting and best preserved in the world today.” So begins David Galloway’s masterpiece *Flora of New Zealand Lichens* (1985). A second edition in two huge volumes left the printer in 2007 – these 2261-page landmark books, without doubt the most significant account of a southern hemisphere lichen flora yet produced, mark the peak of his scientific career, emphasizing his interest and exertions during several decades.

David Galloway was born in Invercargill, on the southernmost coast of South Island, New Zealand. His father was of Scottish heritage. He entered the University of Otago in Dunedin to study natural sciences and ended his time there with a PhD in biochemistry in 1972 and a DSc in botany in 1988. The year 1961 was decisive in that he came into contact with James Murray, a senior lecturer in chemistry with a keen interest in lichens, who awakened a similar enthusiasm in David. In his own words: "I was hooked." An early mentor in botany was Peter James (1930–2014) at the Natural History Museum in London, who was invited to New Zealand by the University of Otago to curate Murray's lichen herbarium after his death in a car crash. One of David's last publications is a comprehensive obituary of Peter in this Newsletter (**47**: 3–23, 2014).

For ten years (1973–1982) David was a member of the staff of the Botany Division at the Department of Scientific and Industrial Research (DSIR) in Lincoln. He received a Commonwealth Fellowship in 1982 which enabled him to work as a senior Research Fellow at the Department of Botany in the Natural History Museum in London. There he was appointed Head of the Lichen Division in 1987. He returned to New Zealand in 1994 after twelve intense and successful years. Back home he worked, first as a consultant lichenologist in Roxburgh, later as a research worker at Landcare Research in Dunedin, and from 2008 as Honorary Research Lichenologist at the same institute.

Fig. 2. David Galloway sorting out South American specimens of Sticta *in the Department of Botany, University of Otago, 11 November 2008. Photo: Lars Arvidsson*

Fig. 3. David Galloway and the author's wife Lisa in our home in Gothenburg, Sweden, just before the departure for Vadstena, 11 August 2013. Photo: Lars Arvidsson

Over the years David published more than 385 papers, the majority of which deal with lichens. A list of publications 1964–2006 was published by the present author in 2007 (Bibl. Lichenol. **95**: 3–28) and included more than 320 papers and books. Thereafter 65 titles can be added, the most important being his *Flora of New Zealand Lichens*. Other publications include highly appreciated, major contributions on *Pseudocyphellaria* (altogether c. 850 pages) and *Sticta*, the beautifully illustrated New Zealand Lichens – checklist, key, and glossary (1997; with W.M. Malcolm) and the editorship of *Tropical Lichens*: *their systematics, conservation and ecology* (1991). Recent books to be mentioned are for instance *Aspects of Darwin: A New Zealand Celebration* (2010; co-edited with J. Timmins) in which he contributed a chapter on Darwin's "Beagle" lichens, and a monograph, The Lichen Genera *Aspiciliopsis* and *Placopsis* in New Zealand (Phytotaxa 120) published in 2013, which covers nearly 200 pages.

In addition can be mentioned manifold revisions, local lichen floras and check-lists as well as papers on chemistry, nomenclature, geography, phylogeny, taxonomy, molecular biology, ecology, conservation, biographies, bibliographies, obituaries, reviews, reports, etc. To conclude this outline, we can establish the fact that David's abundant output also embraces essays on the history of lichenology (e.g. the scientific works by A. Menzies, H.H. Allan, W. Martin, E. Acharius, O. Swartz, C. Knight, J. Lightfoot, W.L. Lindsay and J. Buchanan).

Fig. 4. Lars Arvidsson and David Galloway at Herrestad church near Vadstena, Sweden, 13 August 2013. Photo: Ulf Larsson

The generic names *Davidgallowaya* and *Gallaicolichen* are named after him, as are numerous species. David (in co-operation with other scientists) introduced five new genera of lichens (*Bartlettiella, Degelia, Fuscoderma, Metus* and *Stirtoniella*) and 215 new species or new combinations (including two lichenicolous fungi). Many of these novelties were made in co-operation with scientists such as P.W. James, P.M. Jørgensen and J. Elix.

Since October 1976 I have enjoyed a close personal and professional friendship with David Galloway and we also published five joint papers. We met at the Natural History Museum in London where David examined New Zealand lichens and I studied their important collections of *Coccocarpia*. I was also fortunate to visit David's homes in London and more recently in Dunedin and met his beloved wife Patricia Payne, an international opera singer and painter, and their cat 'Tiger Tim' and their Jack Russell 'Lily'. During his time as President of the International Association for Lichenology, and mine as Secretary, we were responsible for creating a commemorative plaque to Acharius on his house in Vadstena, for establishing the Acharius Medal (typical of his interest in lichen history) and for organizing the symposium on Tropical Lichenology at the Natural History Museum in London in 1989 and the IAL2 in Sweden under the leadership of Ingvar Kärnefelt and co-workers in 1992. During these years this charismatic scientist showed his ability as organizer, convener and speaker at international meetings.

David's friendly, social character has attracted scientists worldwide and gave him friends everywhere. He was a splendid correspondent and many scientists have received long letters in his beautiful, characteristic hand. He has published together with numerous colleagues. His wide network also reflects the fact that David was an esteemed scientist with whom it was a pleasure and an honour to co-operate.

Fig. 5. David Galloway and his wife Patricia Payne with their Jack Russell 'Lily' in their home on 16 Farquharson Street, Opoho, Dunedin, 28 September 2006. Photo: Lars Arvidsson

In due course, accolades recognizing the measure of his life's work began to flow in. He became a member of the Royal Society of New Zealand in 1998. He was awarded the Acharius Medal in 2008 at IAL6 in Asilomar, California, USA, for distinguished life achievement in lichenology. It was a great pleasure for me to present this medal to him at a ceremony in Hewitson Library, Knox College, Dunedin on 4 November 2008. In 2011 he was made a foreign member of the Royal Society of Arts and Sciences in Gothenburg, Sweden. David Galloway was awarded the Hutton Medal (Plant Sciences) "*for his significant contributions to understanding the New Zealand environment, particularly through his botanical work on New Zealand lichens*". David was also honoured by a large number of contributions in a Festschrift (Bibl. Lichenol. **95**) on the occasion of his 65th birthday.

On Christmas Eve 2012 I received a heart-breaking mail from David: "*This past week has had its alarms and excursions. A week ago I had a primary invasive melanoma cut out of my back. … Four days later we learned that it was malignant…"*. After additional surgery and recovery he felt ready for a trip to Sweden.

David joined the 20th biennial meeting of the Nordic Lichen Society in Vadstena in August 2013. My wife and I were delighted that he could stay in our apartment during his stay here. The conference with good old friends was elevating and he was greatly bucked by it: " … *And the marvelous trip to Vadstena – what a great occasion that was and memorable on so many levels. Without doubt it has been one of the best trips I have ever had and it has finally made me start working again in a positive way for which I am very grateful"* (mail, 23 August 2013). His wife also noted an unequivocal impact on his mind: "… *He returned on a high, and began working with a huge excitement and enthusiasm"* (mail from Patricia Payne, 24 December 2014). At the end of 2013 he sent greetings for the New Year: *"… I have a feeling that 2014 will be a good year for us all – I certainly hope so anyway"* (mail, 21 December 2013). He seemed to be in great form. However, in 10 November 2014 came a note telling us that he had "… *a tight chesty cough that progressed into something quite persistent*". A disheartening note from David arrived on 12 November – a very sad reading. *"…Yes the situation is serious… I have shadows on both lungs"* and *"…The oncologist showed me the CT-scans with all the various secondaries"*. The last mail from him was sent on 24 November 2014: "… *Intellectually I feel quite normal which is good, and there is much to be positive about and for.* Even though he was very weak and thin he was positive and expected much from the radiation treatment.

However, the spread of his terrible melanoma was utterly quick and incurable. David died peacefully in the early morning of 6 December 2014 at Otago Community Hospice in Dunedin, aged 72 years. For all of those fortunate enough to know him, he will be sorely missed and gratefully remembered in equal measure.

International lichenology has lost an outstanding scientist, a true friend and a gentleman.

Lars Arvidsson, Gothenburg

BOOK REVIEWS

BRACKEL, W. v. (2014): Kommentierter Katalog der flechtenbewohnenden Pilze Bayern. Bibliotheca Lichenologica 109. – J. Cramer in Gebr. Borntraeger Verlagsbuchhandlung, Stuttgart. 476 pages, 13 figures. Paperback. ISBN 978-3-443-58088-9, ISSN 1436-169. Price: 119 €.

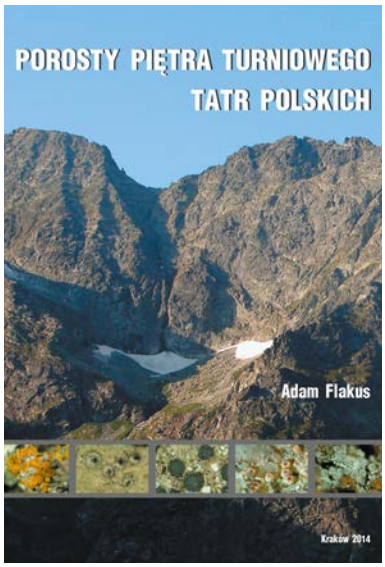
This *Catalogue of lichen-inhabitating fungi of Bavaria* by Wolfgang von Brackel is an annotated list of 372 non-lichenized fungi found on lichens in the German province of Bavaria, but it covers much more information of much greater importance than the title might suggests. For those lichenologists who try to find a route into the world of lichenicolous fungi, the often long explanations of the 135 genera are very helpful because they include information on the number of species, ecology and distribution which is often difficult to find elsewhere; it also lists all known synonyms and hosts, followed by important literature for particular species. Information and literature sources are provided on European and World distributions, as well for the German provinces (Bundesländer) are presented followed by the known distribution in Bavaria based heavily on the field work by the author. With all this information the book is not only a catalogue of the lichenicolous fungi from Bavaria, but in fact the first reliable overview of lichenicolous fungi in Germany. However, the catalogue would be perfect if it had an index of host species or a list of host species with lichenicolous fungi recorded on them.

This in-depth study contains just a few small mistakes such as *Abrothallus curreyi* Linds. is a synonym of *Phacopsis thallinicola* (A. Massal) Triebel & Rambold (p. 9) and the abbreviation of Ignaz (Clemens) Kotte is *I. Kotte* not *C. Kotte* (p. 13, 14, 16). Although the book contains no keys, it is of taxonomic importance since it describes five new species in the genera *Hainesia* (2), *Microsphaeropsis*, *Trichoconis* and *Trichonectria* and proposes a new combination *Xenonectriella protopannariae* (Zhurb.) Brackel. The descriptions of new species are accompanied by high-quality photographs of the habitus of the fungus as well as b/w drawings of anatomical details. Many new taxa have already been published by the author in various journals over the last ten years and his important contributions to the knowledge of lichenicolous fungi in Bavaria have been accepted as a thesis by the University of Erlangen-Nürnberg.

The present book is a must for every serious worker in the field of lichenicolous fungi in Central Europe, as well as offering valuable information for outside Europe since the type of information and the style of presentation does not necessitate a knowledge of German.

Peter Scholz, Schkeuditz and Ave Suija, Tartu

FLAKUS, A. (2014): Porosty piętra turniowego Tatr Polskich. [Lichens of the subnival belt of the Polish Tatra Mountains]. – Polish Academy of Sciences, W. Szafer Institute of Botany, Kraków, 280 pages. Paperback. ISBN 978-83-62975-24-2. Price: 24 €



Adam Flakus' book presents the results of the first complex work on lichens in the subnival belt of the Polish Tatra Mts. in the Carpathian Mts., based on field research carried out from 2003 until 2006 at 37 localities in an area covering c.10 km^2. The author collected the material from sites away from hiking trails using specialist climbing equipment. In all, 3000 specimens were collected and 332 species identified, each supported by information on the current name and, if applicable, its synonyms, frequency, ecology and distribution based on the material collected and on revised herbarium collections. The study provides detailed information on the ecology of high-mountain lichenized fungi recorded in the subnival belt; 166 plates illustrate their ecological preferences (substrate, exposure, slope, humidity, insolation and wind exposure). For bryophytic lichens, mosses and liverworts are distinguished to the species level (60 and 27 species respectively). Six taxa are reported as new to Poland: *Biatora subduplex*, *Lecanora leptacinella*, *Lecidea atrobrunnea* subsp. *saxosa*, *L. atrobrunnea* subsp. *stictica*, *L. auriculata* subsp. *brachyspora*, and *Myriospora myochroa*. The author also provides the first cumulative catalogue of 439 species of lichenized and allied fungi (378 lichenized fungi and 61 lichenicolous fungi) occurring in the subnival belt of the Polish and Slovak Tatra Mts. The book is written in Polish with additional English descriptions for tables and plates. This book is the first detailed study from the subnival belt in the Carpathians and will undoubtedly be of great help to those studying this flora.

Beata Krzewicka, Kraków

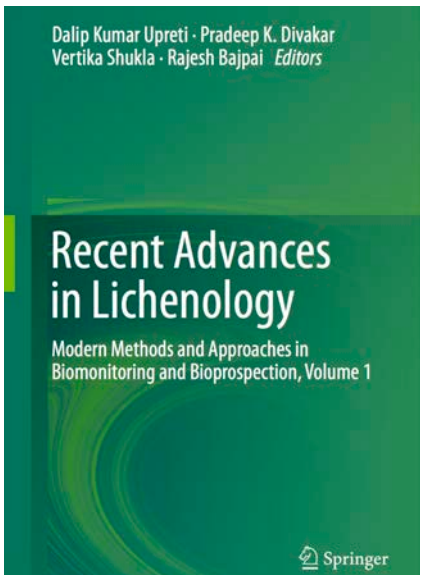
MAYER, W., GRUBER, J. & TÜRK, R. (2013): Epiphytische Flechtengesellschaften im Nationalpark Kalkalpen, Oberösterreich, Österreich. Stapfia 98 – Oberösterreichisches Landesmuseum, Linz. 79 pages. Paperback. ISSN: 0252-192X. Price: 15 €. Available as download from: http://www.landesmuseum.at/pdf_frei_remote/STAPFIA_0098_0001-0080.pdf

Phytosociological studies of lichen communities are still rather small in number compared to such studies in bryology. Most of them concentrate on European countries where the relevant methods have been developed. This study of epiphytic lichen communities is based on fieldwork during 2006 and 2010 in the National Park Kalkalpen in Upper Austria. 410 sample plots of 20 to 20 cm were studied in detail, resulting in records for 222 different lichens and 47 associated bryophytes. The authors were able to distinguish 13 known associations, four additional sub-associations (one of which is newly proposed) and one additional community.

These 18 units are briefly described with their characteristic species as well as the ecology and distribution within the study area. For every association a table of consistency is given. Unfortunately, the newly proposed *Lobarietum pulmonariae* subass. *leptogietum saturnini* is described in the same way without presenting a formal type. The second half of the booklet concentrates on the floristics of the recorded lichens and mosses, and includes annotated species lists and tables of the relevant substrates and abundances. 74 lichens and six mosses are red-listed in Austria and *Pertusaria sommerfeltii* is refound in Upper Austria after more than 130 years despite the intensive fieldwork in this part of Austria during the last 40 years. Finally the publication includes four pages of colour photographs of 24 selected lichens from the study area.

Peter Scholz, Schkeuditz

UPRETI, D.K., DIVAKAR, P.K., SHUKLA, V., R. BAJPAI (Editors) (2015): Recent Advances in Lichenology Modern Methods and Approaches in Biomonitoring and Bioprospection, Volume 1 Springer. x + 265 pp, incl. numerous tables, coloured & b/w plates. ISBN 978-81-322-2180-7 ISBN 978-81-322-2180-7(eBook) Price: $239 hardback, $189 eBook or $29.95 for individual chapters; see also: http://www.springer.com



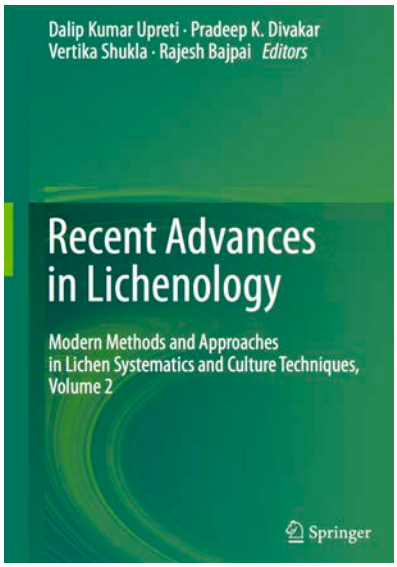
This is one of two volumes dealing with *Recent Advances in Lichenology* dedicated to Dr D.D. Awasthi the father of Indian Lichenology who died in 2011. This volume covers Biomonitoring and Bioprospection and includes 11 chapters from 20 scientists, many of whom are international experts in their fields. A wide range of methods that are applicable to the use of lichens in monitoring changes in our environment are covered, including lichenometry, atmospheric and particulate pollution, biodeterioration, remote sensing and lichen metabolites together with chapters on effects of land management in the western USA and a study of changes in lichen species number around a paper mill in India. The standard of contributions varies considerably both in the content and in the use of the English language. The chapter on biomonitoring of Lichen Diversity provides a good overview of objectives and methods in use, considering effects of scale and sampling techniques from expert sampling to citizen science projects but options for analysis of the data are hardly discussed although this aspect needs to be considered at the start of a project. The chapter on remote sensing is a welcome addition that covered a huge range of techniques used in vegetation mapping (and a table to keep consulting for acronyms!) but only two pages of applications of remote sensing to lichens and these did not include important

methods developed for mapping soil crusts. Lichen metabolites were covered in detail in an interesting paper that dealt with past, present and future techniques showing that we are now able to unravel the metabolic pathways in myco- and photo-bionts and to reconstitute the symbiosis.

This is an expensive book and there is considerable duplication in parts. However it has been conceived as a series of chapters and Springer have provided an option to acquire the chapters individually, each chapter being complete with references (which together take up 61 pages in the book). On the Springer website all chapters are listed and a preview of each chapter is available which includes the contents, abstract and first page. This is a useful way forward for a volume that covers a wide range of interests and applications.

Pat Wolseley, London

UPRETI, D.K., DIVAKAR, P.D., SHUKLA, V., BAJPAI, R. (Editors) (2015): Recent Advances in Lichenology. Modern Methods and Approaches in Lichen Systematics and Culture Techniques, Volume 2. New Delhi & Heidelberg: Springer. 232 pp, incl. numerous tables, colour & b/w plates. ISBN 978-81-322-2234-7. Price: 139.99 € hardcover; 118.99 € eBook; see also: http://www.springer.com



In the second volume of *Recent Advances in Lichenology* the editors have compiled twelve chapters dealing with different aspects and interests in modern lichenology. Chapter 1 reviews hypotheses on the origin of the lichen life-style, focusing both on fossil and molecular evidence. Chapter 2 is intended for those interested in delimiting lichen-forming fungal species. A thorough overview is given on species concepts, the problematic of delimiting species and current molecular approaches to find species boundaries. Chapter 3 deals with the methods available to reconstruct phylogenetic relationships among species using molecular markers, including those for the reconstruction of ancestral characters. Chapter 4 is devoted to population level studies, which covers the emerging field of high-throughput sequencing techniques in the field of population genetics. Recent studies are summarized and biological questions that may be answered by the new approaches are presented and explained. Chapter 6 presents the diversity of endolichenic fungi in the Himalaya as well as the methods used in culturing and isolation of these fungi. Chapter 7, a review of ecosystem functions and the role of lichens, covers a wide range of topics, from primary colonization and soil formation to nitrogen and carbon fixation. The next group of chapters focus on different aspects of lichen metabolites. Chapters 5 is an interesting study of the characterization of Type I NR-PKS gene in the species *Xanthoparmelia strigosa*. Chapters 8 and 9 show how different culturing and physiological conditions affect the growth and production of secondary metabolites in lichen-forming fungi, and explains the origin of polyketide metabolites and their biosynthetic pathways. Chapters 10 and 11 focus on the

biological activities of lichen metabolites. Chapter 10 summarizes the different proven activities, from anti-oxidation to the inhibition of bacterial and fungal growth. On the other hand, chapter 11 focuses on the anti-cancer activity of lichen metabolites and the specific mechanisms of how they work at the molecular level. Chapter 12 reviews the history of lichen dyes and the different methods used for their extraction from lichen thalli. It also provides a complete summary of lichen dyes extracted from Indian species. The chapters are richly illustrated and many of them contain tables summarizing valuable information on the topics treated. The reference list is always extensive and the reader may use it as a starting point to expand the topic. The only obvious objection to this book is the price, which is certainly not affordable for most lichenologists. However, this book (together with volume 1) is a must-have reference that should be on the lichenologist's shelf.

Sergio Pérez-Ortega, Madrid

PERSONALIA

On 1 April 2015 **Matthias Schultz** was appointed as Curator at the Herbarium of the University of Hamburg. After the retirement of the former curators of phanerogams and cryptogams, he will be responsible for the whole collection amounting to 1.8 million specimens. Despite his new and expanded duties he will continue his taxonomic and phylogenetic work, especially of cyanolichens.

On 1 July 2015, **Robert Lücking** took over the position of Curator of Cryptogams at the Herbarium of the Botanical Garden and Botanical Museum Berlin. The cryptogam collection contains nearly 1 million specimens, about equally distributed among the three main areas of lichens, fungi, and bryophytes. Besides his duties in the management of the collections, including curation and digitization, Robert will continue his research in tropical lichens, particularly in Colombia and focusing on Lobariaceae and crustose groups, and also expand his interest to Mediterranean areas, in line with the research focus of the BGBM and in close collaboration with Curator Emeritus Harrie Sipman and other colleagues at the Botanical Museum.

Martin Hutten (Oregon State University, OR, USA) defended his PhD thesis "Yosemite region nitrogen deposition and patterns in the composition of lichen communities" on 20 October 2014.

Nicolas Magain (University de Liège, Belgium) defended his PhD thesis "Integrating photobiont phylogenetic and geographical data in macroevolutionary studies of lichens: case studies in the Peltigerales" in November 2014.

Margrét Bessadóttir (University of Reykjavik, Iceland) defended her PhD thesis "The effects of the lichen metabolites usnic acid and protolichesterinic acid on energy and lipid metabolism in cancer cells" on 12 December 2014

Manuela Dal Forno defended her PhD on "Evolution and diversity of the tropical Basidiolichen clade *Dictyonema* Sensu Lato (Agaricales: Hygrophoraceae)" at George Mason University (VI, USA) on 15 April 2015

IAL Advisory Committee

The cover-page illustration

Umbilicaria torrefacta by Bethia Brehmer, first published in *American Arctic Lichens* Vol 1. *Macrolichens* by J.W. Thomson