

André Aptroot – A life for lichens

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Article info

Received: 1 Jul. 2026
Revision received: 14 Jul. 2026
Accepted: 14 Jul. 2026
Published: 31 Jul. 2026

Associate Editor

Adam Flakus

Abstract. On April 7, 2026, André Aptroot celebrated his 65th birthday. Here, we provide a concise biographic sketch of his career in lichenology and mycology. André is considered one of the most prolific lichenologists and mycologists of all time and the most prolific in modern history, publishing more than 1,230 scientific works and describing 1,332 new taxa to date, including 1,265 species, 65 genera, and two infraspecies. He is one of only about a handful of global specialists in tropical lichens, with numerous contributions to the knowledge of the lichen biota of diverse regions across the globe. Especially important is his work in numerous tropical areas, including Mexico, Costa Rica, Ecuador and the Galapagos, the Guianas, Brazil, Madagascar, China, Thailand, Vietnam, Taiwan, the Philippines, Papua New Guinea, and Australia. In this dedication, we provide a concise overview of André's career and touch on his impact on global lichen and fungal taxonomy.

Key words: *Graphidaceae*, *Pleosporales*, *Pyrenulaceae*, *Sordariomycetes*, *Trypetheliaceae*

Introduction

If one checks the historical events that occurred on April 7, 1961, not much actually happened that particular day. Perhaps the most notable event was the publication of a much-discussed front-page article in *The New York Times* about preparations of the CIA for the upcoming Bay

of Pigs invasion on the southwestern coast of Cuba, which commenced ten days later and ended in failure (Kennedy 1986). Yet, on that very day, April 7, a person was born in Heemskerk, the Netherlands, who would become the most prolific taxonomist in modern lichenology, André Aptroot (Fig. 1). And this is not an exaggeration. During the past five decades, André has published over 1,230 scientific works and described or participated in the description of over 1,330 taxa, the first number a historical record for a lichenologist and the second only surpassed by the likes of William Nylander, Jean Müller, Edward Vainio, Alexander Zahlbruckner, and in modern times matched by John A. Elix (Lücking 2020). But the story begins much earlier.

The early years

André became interested in biology at an early age (BLWG 2017). A paper citing rare plant records shows that he collected *Equisetum sylvaticum* L. (wood horse-tail) near his house at the age of 11 (Mennema et al. 1977). He started to work in zoology and botany and published his first scientific paper in 1979, at the age of 18, as coauthor with Jan Kerkhoven, in the Dutch entomological journal *Stridula*, on ground beetles, entitled *Loopkeveronderzoekje in het Veursbos – pasen 1978* [Ground beetle research in the Veursbos – Easter 1978] (Kerkhoven & Aptroot 1979). André continued with some papers on plants and mosses (*Campylopus introflexus*) before putting out his first paper on lichens in 1982, on *De lichenologische najaarsexcursie 1978 naar Bergen*



Figure 1. André looking closely at a community of tropical lichens on an excursion during the IAL7 symposium in Thailand in 2012. Photo: Robert Lücking.

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DE LICHENOLOGISCHE NAJAARSEXCURSIE 1978 NAAR BERGEN

door André Aptroot

De duinstrook in de omgeving van Bergen werd op 16 en 17 september 1978 door de lichenologen bezocht. Aanwezig waren L. Blom, Maarten en Dieuwke Brand, Fienk-Jan Rijlsma, Han van Dobben, Nan Ernste, Jan-Hendrik Ietswaart, Rita Kettner, Kets, Lips, Harrie Sipman, Carla en Johan Steenhuis, Erik Werner en ondergetekende.

Het excursiegebied is een bekend korstmossengebied, maar er was nog nooit een speciale lichenologische excursie gehouden.

Figure 2. André's first scientific paper on lichens, published in 1982 in the journal *Buxbaumiella*.

[*The 1978 lichenological autumn excursion to Bergen*], in *Buxbaumiella*, the journal of the Dutch Bryological and Lichenological Society (Fig. 2). In that paper, André provided a report on the excursion, with a detailed list of species and their distribution across collection sites and phorophytes (Aptroot 1982). He was 21 at the time, an age when most of us perhaps did not yet know what to do with our lives.

The next five years would lay out André's early career in lichenology. In 1985, he published a paper with Thorsten Lumbsch, another icon of modern lichenology, at the time also only 21 years old, on the distribution of the rare lichen *Cladonia fragilissima* Østh. & P. James, now considered a synonym of *C. callosa* Delise ex Harm., expanding its range to central Europe (Netherlands and Germany; Aptroot & Lumbsch 1985). Two years later, André reported on the meeting *Progress and Problems in Lichenology in the Eighties* in the *International Lichenological Newsletter* (Aptroot 1987a), an international symposium held in Münster 1986 (Peveling 1987), a first

opportunity to get in touch with the world's authorities in lichenology at the time. In the same year, he published his first paper on nomenclature, with a formal proposal to conserve the name *Buellia* De Not. against the older name *Gassicurtia* Fée (Aptroot 1987b). Many years later, *Gassicurtia* was resurrected for a segregate of *Buellia* s.lat. (Marbach 2000) and since then, André has described or recombined several species in this genus (Aptroot et al. 2007, 2017; Alves et al. 2014; Andrade et al. 2020; Aptroot & Souza 2021). A third important publication was the description of five new species of *Rinodina* from the Guianas (Aptroot 1987c), based on an excursion two years earlier to the three Guianas, marking his first step on the way to become one of the world's foremost experts in tropical lichens.

Academic and professional career

From 1981 onwards, André studied Biology at the University of Utrecht where he, under the guidance of Prof. Dr. S. R. Gradstein, obtained his Master's degree in 1988, and his Ph.D. in 1993 (Fig. 3). For his Master's thesis, he worked on a monograph of *Pyxinaceae* (now *Caliciaceae*) in the Guianas (Aptroot 1987d). In this monograph, he proposed several taxonomic novelties and new synonymies, as well as lectotypifications. The title of his Ph.D. thesis was "*Systematic Studies on Pyrenocarpous Lichens and Related Fungi*", reflecting his developing expertise in (mostly tropical) pyrenocarpous lichenized fungi, such as the *Pyrenulaceae*, and lichen-like (borderline lichenized) fungi and their relatives, which remained the focus in numerous subsequent studies.



Figure 3. André's doctoral defense 1993 in Utrecht, with his opponent David Hawksworth (congratulating), his supervisor Rob Gradstein (to the right), CBS director Dirk van der Mei and Harrie Sipman (left). Photographer unknown.

From 1988 to 1992, during his doctoral studies, André held a research position at the *Netherlands Organization for Scientific Research*, and then moved to the renowned *Centraalbureau voor Schimmelcultures* of the *Koninklijke Akademie van Wetenschappen* (now *Westerdijk Fungal Biodiversity Institute*), the world's largest collection of fungal cultures and a global center for mycological research, first as a postdoc and from 1996 to 2006 as a staff member. During that time, he was involved in collecting trips in tropical areas in the world, accompanied by friends (Ecuador, Madagascar), as an expedition member (Guianas), with Harrie Sipman (Papua New Guinea), with his family (around the world trip), and with local lichenologists (many other places). He also attended numerous regional and international meetings, among them the first symposium on leaf-inhabiting lichens and bryophytes in Hungary in 1995 (Fig. 4). After the new director of the Centraalbureau changed the research scope of the institution, he started his own business (*Adviesbureau voor Bryologie en Lichenologie*), conducting botanical surveys, and greatly extending his international network during many collecting trips. He supervised Laurens Sparrius' Master's thesis on *Enterographa* (2004). Between 2008 and 2019, he was also working as scientific curator at the *Pinetum Blijdenstein* and conducted botanical surveys for the largest private nature conservation organization, *Natuurmonumenten*, and later for the ecological consultancy firm *Van der Goes en Groot*.

Between 2019 and 2023, André had an extended stint as visiting professor at the Universidade Federal de Mato Grosso do Sul in Campo Grande, Brazil, continuing his work on Brazilian lichens in collaboration with numerous colleagues, resulting in numerous publications (e.g., Barbosa-Silva et al. 2019; Santos et al. 2019, 2023; Aptroot & Feuerstein 2020; Aptroot & Spielmann 2020; Aptroot et al. 2020, 2021a–d, 2022a, b, 2023, 2024a, b; Etayo et al. 2020; Pereira et al. 2020; Torres et al. 2020; Oliveira Junior et al. 2021; Canêz et al. 2022; Souza et al. 2022; Aptroot 2023; Silva et al. 2023; Vidigal Fraga Junior et al. 2023; Aptroot & Gumboski 2025) and culminating in the recently published Brazilian lichen checklist, enumerating the largest number of known taxa for any country to date (Aptroot et al. 2025). Together with Felix Schumm, André has documented his numerous Brazilian collections photographically (Schumm & Aptroot 2022, 2023a–g, 2024a, b).

André's work as lichen and fungal taxonomist

Between 1982 and 2026, André published an impressive number of over 1,230 scientific works. That makes an average of 28 per year, during several years reaching over 50 and up to 75 (Fig. 5). The bulk of these are on lichens, a number unsurpassed by any other lichenologist. Most of André's work is on the taxonomy of lichens and other fungi. Over the course of four decades, he has described or participated in the description of over 1,330 taxa, including 65 genera and 1,265 species, and made or participated in 575 taxonomic combinations. These

numbers are historically only surpassed by the likes of William Nylander, Jean Müller, Edward Vainio, Alexander Zahlbruckner, and in modern times matched by John A. Elix (Lücking 2020).

André's impact as a globally recognized lichenologist and mycologist

As a taxonomic expert, André has participated in a large number of collaborative papers in the fields of mycology and lichenology. To this date, the most cited paper (nearly 3,500 citations) is *A higher-level phylogenetic classification of the Fungi* (Hibbett et al. 2007), the first community-wide effort to formalize fungal classifications across all lineages based on molecular phylogenetic data under the provisions of the *Code* and to abandon the growing tendency at the time to apply informal clade names. André also collaborated in several high-level phylogenetic studies on *Fungi* (James et al. 2006), *Ascomycota* (Schoch et al. 2009), *Pezi-zomycotina* (Spatafora et al. 2006), and *Dothideomycetes* (Hyde et al. 2013; Hongseanan et al. 2020). In addition, he is a regular contributor to fungal classification surveys, such as the much-cited *Outline of Fungi and fungus-like taxa* from 2020 and 2021 (Wijayawardene et al. 2020, 2022) or *Fungal diversity notes 1036–1150* (Hyde et al. 2019), each with several hundred citations. He used international meetings, such as the 7th IAL symposium in Thailand in 2012 (Fig. 6), to expand and deepen his network and increase collaborations. From 2013 onwards, he started to focus on Brazil, the country with the largest number of tropical ecosystems globally (Figs 7–10).

As outlined above, André's core expertise is the taxonomy of pyrenocarpous lineages and other lichen groups, where he has published, alone or with diverse coauthors, several highly cited and much used revisionary works, keys, inventories, and checklists, including world keys to the species of *Pyrenulaceae* and *Trypetheliaceae* (Aptroot 2012, 2021), a global revision of the *Trypetheliaceae* (Aptroot & Lücking 2016), a synopsis of bitunicate pyrenocarpous lichens in Costa Rica (Aptroot et al. 2008), and the main work stemming from his doctoral thesis on *Pyrenulaceae* and *Requienellaceae* (Aptroot 1991). His expertise in non-lichenized *Ascomycota* is evidenced by another set of highly cited papers on genera such as *Didymosphaeria* (Aptroot 1995a, b), *Massarina* (Aptroot 1998; Liev et al. 2002), and *Mycosphaerella* (Crous et al. 2000; Aptroot & Crous 2006), as well as broader studies on the so-called *Loculoascomycetes* (Liew et al. 2000).

Besides pyrenocarps, André's interests in lichen taxonomy expanded to virtually all groups of lichens. He has published 1,907 new taxa and combinations in a total of 100 families, representing 50 orders and ten classes in both the *Ascomycota* and the *Basidiomycota* (Fig. 11). Among his numerous contributions to the lichen biota of selected regions, the much-cited *Lichens and lichenicolous fungi from New Guinea* stands out, a collaboration with Paul Diederich, Emmanuël Sérusiaux, and Harrie Sipman, enumerating 298 taxa (Aptroot et al. 1997). Since 2009, André is co-editor and regular contributor to *The Lichens of Great Britain and Ireland* (Smith et al. 2009) and its



Figure 4. André with colleagues at the international symposium “Cryptogams in the Phyllosphere: Systematics, Distribution, Ecology and Use”, held in Eger, Hungary, in 1995, jointly organized by the International Association for Lichenology and the International Association for Bryology. The symposium coincided with the presentation of a festschrift to the late Antonín Vězda, an outstanding lichen taxonomist of the twentieth century. Photos: Robert Lücking.



Figure 5. André with Emmanuël Sérusiaux and Harrie Sipman discussing lichens during IAL5 in Tartu, Estonia, in 2004, and with Felix Schumm and Volker John doing lichen work in the Eifel in 2006. Photos: Laurens Sparrius.

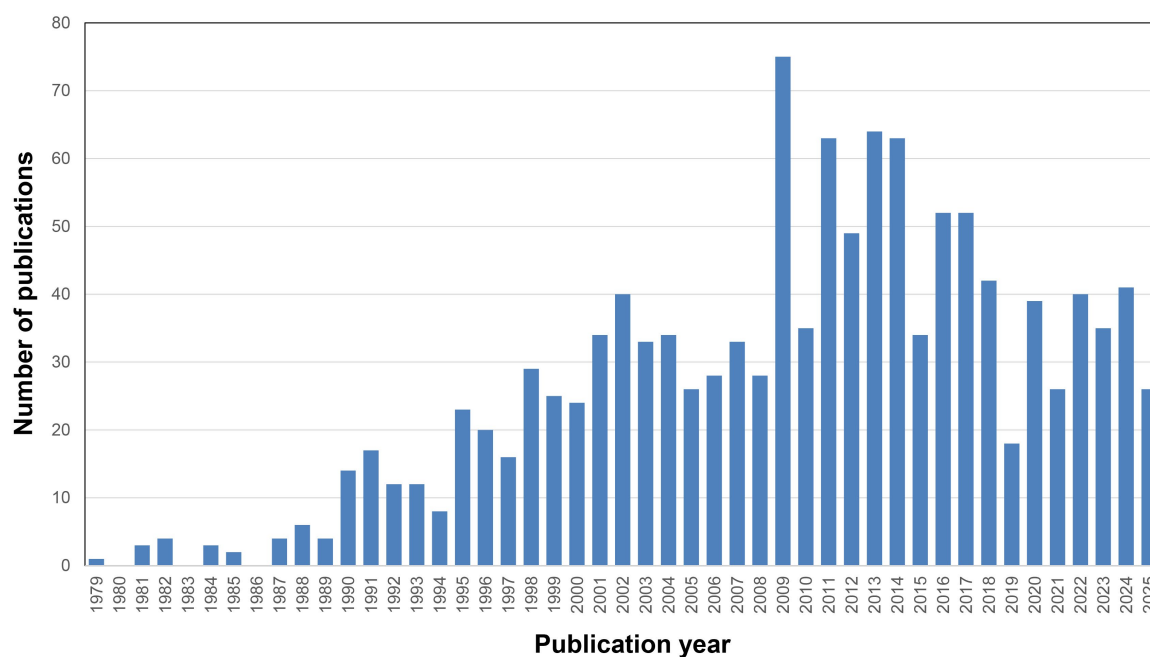


Figure 6. Number of scientific works published per year by André.



Figure 7. André with colleagues at the 7th Symposium of the International Association for Lichenology (IAL7) in Bangkok, Thailand, and during an excursion, in 2012. Photos: Robert Lücking.



Figure 8. André with colleagues during the 7th Reunião Brasileira de Estudo Liqueenológicos (REBEL) in Itabaiana, Brazil, in 2013. Photos: Robert Lücking.



Figure 9. André with colleagues (Marcela Cáceres, Carlos Vidigal Junior) during excursions in the northeast and south of Brazil, in 2015. Photos: Robert Lücking and Marcela Cáceres.



Figure 10. André collecting lichens in Brazil: in Canguçu, Rio Grande do Sul, in 2019, and in Jaraguari, Mato Grosso do Sul, in 2021. Photos: Adriano Spielmann.

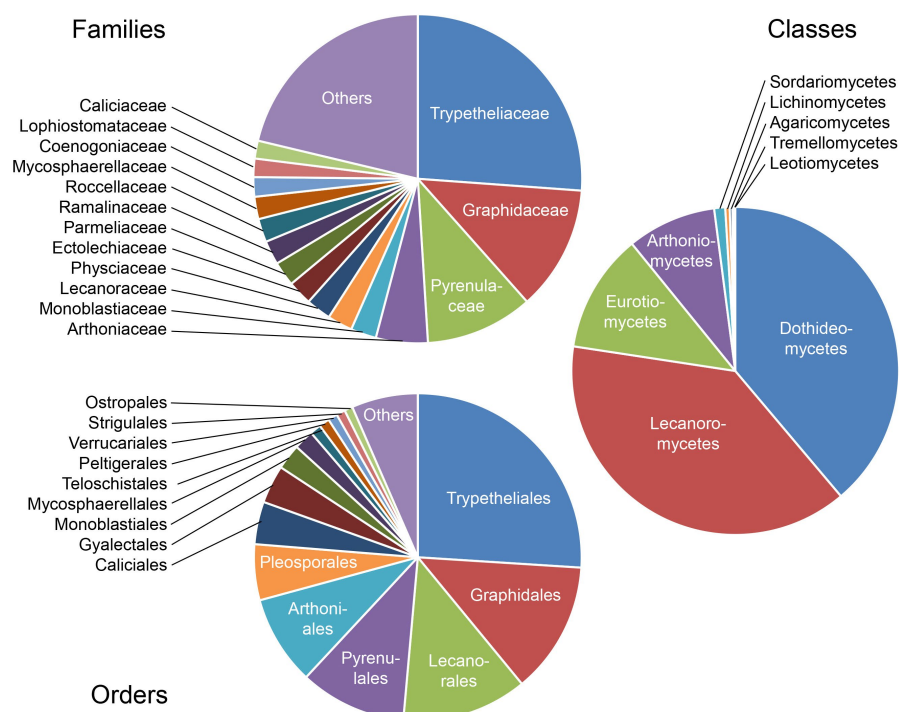


Figure 11. Systematic distribution of new taxa described by André Aptroot.

successor, *Revisions of British and Irish Lichens*, collaborating in 25 treatments encompassing the *Arthoniales*, *Baeomycetales*, *Caliciales*, *Graphidales*, *Lecanorales*, *Lecideales*, *Peltigerales*, *Pertusariales*, *Umbilicariales*, and numerous pyrenocarpous taxa (e.g., Cannon et al. 2020a, b, 2021a–c, 2022a–c, 2023a–c, 2024; Pino-Bodas et al. 2021; Aptroot et al. 2023; Fryday et al. 2024). Shortly after the turn of the millennium, André collaborated in the Costa Rican lichen biodiversity inventory, dubbed “Ticolichen”, on taxa such as *Coenogonium* (Rivas-Plata et al. 2006), *Gyalideopsis* (Lücking et al. 2006), *Coccocarpia* (Lücking et al. 2007), *Graphis* (Lücking et al. 2008), pyrenocarpous taxa (Aptroot et al. 2008), and the thelotremoid *Graphidaceae* (Sipman et al. 2012). Other much cited contributions include *New lichens and lichen records from New Guinea* (Aptroot & Sipman 1991), *Results of a botanical expedition to Mount Roraima, Guyana* (Sipman & Aptroot 1992), *Annotated Checklist of Hongkong lichens* (Aptroot & Seaward 1999), *New Hong Kong lichens, ascomycetes and lichenicolous fungi* (Aptroot & Sipman 2001), *New and interesting lichens and lichenicolous fungi in Brazil* (Aptroot 2002), *New microlichens from Taiwan* (Aptroot & Sparrius 2003), *Additions to the lichen flora of Vietnam, with an annotated checklist and bibliography* (Aptroot & Sparrius 2006), *New lichens from Thailand, mainly microlichens from Chiang Mai* (Aptroot et al. 2007), *Annotated checklist of the lichens of Pakistan, with reports of new records* (Aptroot & Iqbal 2010), new reports of microlichens from Korea (Aptroot & Moon 2014), and *Remarkable diversity of the lichen family Graphidaceae in the Amazon rain forest of Rondônia, Brazil* (Cáceres et al. 2014), all demonstrating his geographic breadth and his dedication to comprehensive synoptical works, such as inventories and checklists.

André also published or collaborated in the publication of numerous global revisions and keys, including the much-used world key to the genus *Graphis*, with Robert Lücking and Alan Archer (Lücking et al. 2009), but also world keys to numerous other genera, such as *Acanthothecis*, *Ramonia*, *Stirtonia*, *Thelopsis* and *Topelia* (Aptroot et al. 2014b, c, 2015; Feuerstein et al. 2022), as well as the reinstatement and global revision of the genus *Herpothallon* in the *Arthoniaceae* (Aptroot et al. 2009). Together with Harrie Sipman, André also ventured into the areas of biogeography, reporting about bipolar lichens (Galloway & Aptroot 1995), and the prediction of global species richness of lichenized fungi, asking *Where are the missing lichens?* (Aptroot & Sipman 1997; Sipman & Aptroot 2001). He also published the hitherto unbroken record of 173 lichenized species on a single tree in Papua New Guinea (Aptroot 1997) and spearheaded the inventory of lichens on an abandoned Ford Bronco in Puerto Rico (Fig. 12). Together with Felix Schumm, André co-produced numerous and often voluminous books on selected lichen biota or taxonomic groups, such as the already mentioned Brazil, Macaronesia, South East Asia, *Caloplaca*, *Roccellaceae*, and pyrenocarpous lichens, an invaluable resource for every serious lichenologist (Aptroot & Schumm 2011; Schumm & Aptroot 2010, 2012a, b, 2013, 2019a–d, 2021a–d, 2022, 2023a–g, 2024a, b).

André’s private herbarium (ABL) has accumulated more than 60,000 collections (Figs 13–15), most of which were transferred to Brussels (BR) in 2014, with duplicates in many other herbaria across the world. The digitized specimens are now an invaluable resource for lichenologists across the world and include many types of the species André had described over the course of his career until then.



Figure 12. André with colleagues at the NSF-funded International Workshop on *Graphidaceae* in Puerto Rico in 2014, where he spearheaded a survey of ‘vehiculicolous’ lichens on an abandoned Ford Bronco, published the same year (Aptroot et al. 2014a). Photo: Robert Lücking.

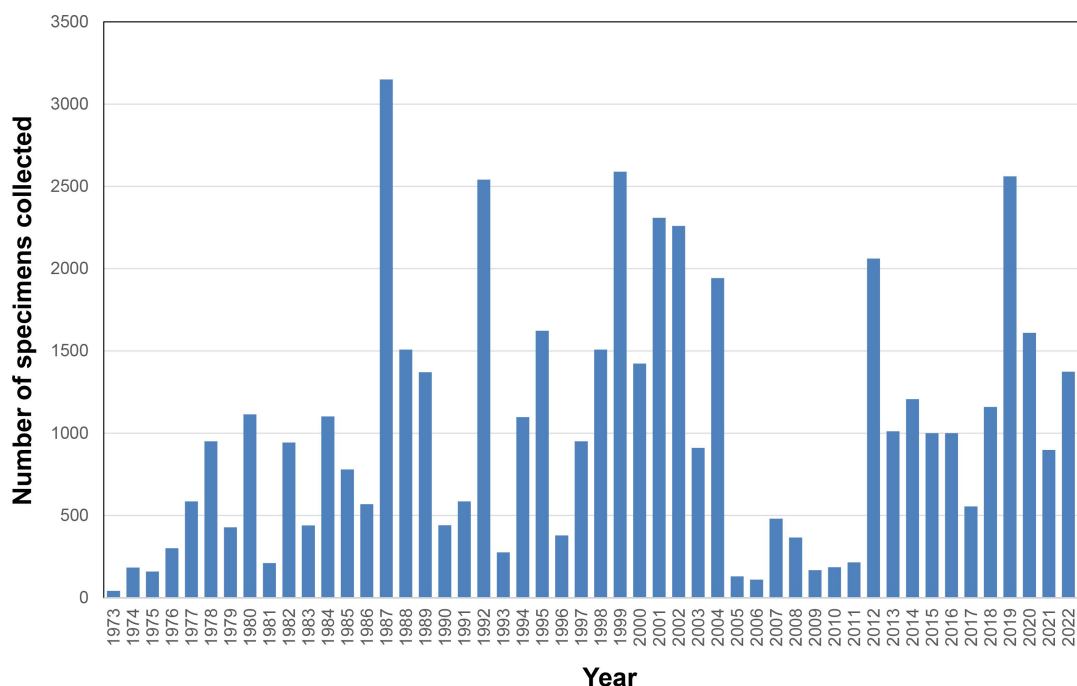


Figure 13. Collections made by André between 1975 and 2022.

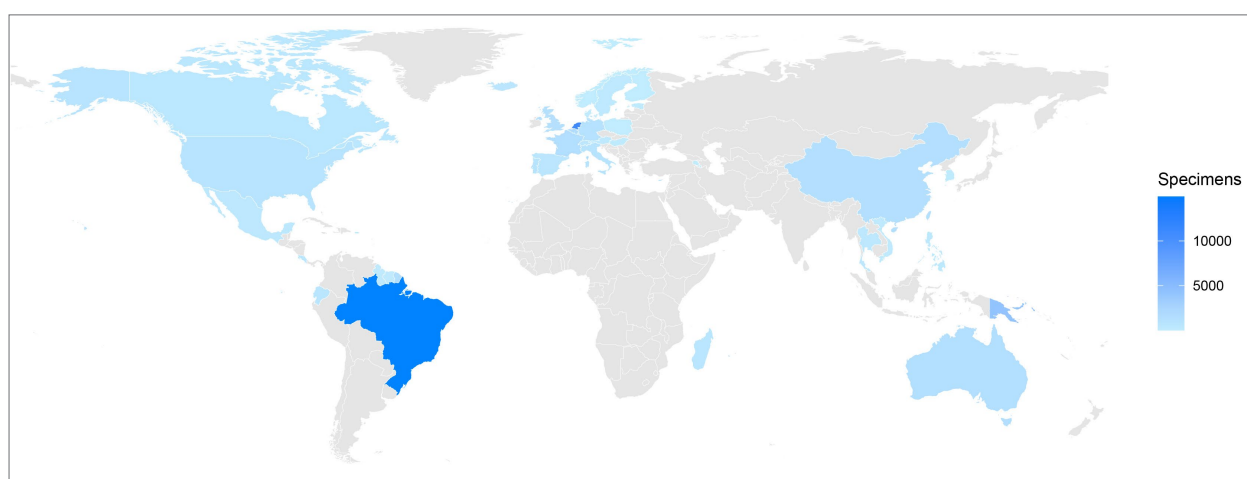


Figure 14. Main areas of origin of the collections made by André over roughly five decades.

Thanks to a strong lichenological community (Fig. 16), the Netherlands is considered one of the best-studied countries in terms of its lichen biodiversity, also due to the decades-long contributions by André (Fig. 17). He participated or was the lead author in several instances of the Dutch lichen checklist (Brand et al. 1988; Aptroot et al. 1992, 1999, 2004), and he was coauthor in several popular Dutch lichen guides (Aptroot 1994; van Herk et al. 2022) and coeditor of the Lichen Flora of Great Britain and Ireland. In the Netherlands and Western Europe, he led numerous field trips and inspired many naturalists to study lichens.

Besides taxonomy, André's work has also focused on ecological and conservation aspects. This included assessments of many species for the IUCN Red List, such as for *Anzia centrifuga* (Aptroot et al. 2014d; Fig. 18) or regional Red Lists (Siebel et al. 1992; Aptroot et al. 2011). Two highly cited studies with his Dutch colleague Kok

van Herk and other collaborators evaluated the impact of global warming on lichen biodiversity and community structure in the Netherlands (van Herk et al. 2002; Aptroot et al. 2007). In a recent review, André and his colleagues summarized existing work and data on this topic (Aptroot et al. 2021d).

Another, much less known area where André has been active, with several highly cited papers (between 60 and over 800 citations), is the study of fossil fungi, in coauthorship with Bas van Geel, a distinguished Dutch Quaternary paleoecologist (van Geel et al. 2003, 2008, 2011; Aptroot & van Geel 2006).

With an H-index of between 68 and 70 (depending on the source), André is one of the most highly cited lichenologists, which is quite an accomplishment, given his focus on taxonomy. In this field, published works are extensively used, but often not properly cited (Meier 2017; Lücking 2020). During his career, André received



Figure 15. Impressions from a collection trip to Taiwan in 2001, with Ming-Jou Lai and Laurens Sparrius. Photo: Laurens Sparrius.

several awards, including the Professor J.J. Barkman Prize for Field Lichenology in 2012, as well as honorary membership of the British Lichen Society in 2019 and of the Dutch Bryological and Lichenological Society in 2022. In the benchmarking platform SciRank Global (<https://scirankglobal.org/>), André is listed with the rank #72,974, which places him in the Top 1% tier of over 8 million scientists evaluated globally.

Miscellaneous anecdotes

The first time the senior author (Harrie Sipman) met André was in the summer camp of the Bryologische en Lichenologische Werkgroep in Brittany 1978, the one that

André reported about later (Aptroot 1982). André had his tent next to Harrie's and they talked in the evening. André told Harrie that he did not need a hand lens to see the tiny crustose lichens (young eyes!), and that he wanted to become a professional lichen taxonomist. At the time, Harrie was having a hard time finding a job with his lichen-taxonomic background and tried to discourage André from pursuing such a career. But André was firm in his decision and went on to become the most prolific modern lichen taxonomist.

The first author (Robert Lücking) especially recognizes André's collaboration in the TICOLICHEN project from 2002 onwards, together with Harrie Sipman, Susan Will-Wolf, Matthew Nelsen, Marie Trest, Martin



Figure 16. André and colleagues during diverse lichenological excursions in the Netherlands, including Drenthe 1999, Duiven 2003, Groningen 2005, Zeeland 2006, Vaals 2013, Friesland 2014, and Zaanse Schans 2017. Photo: Laurens Sparrius.

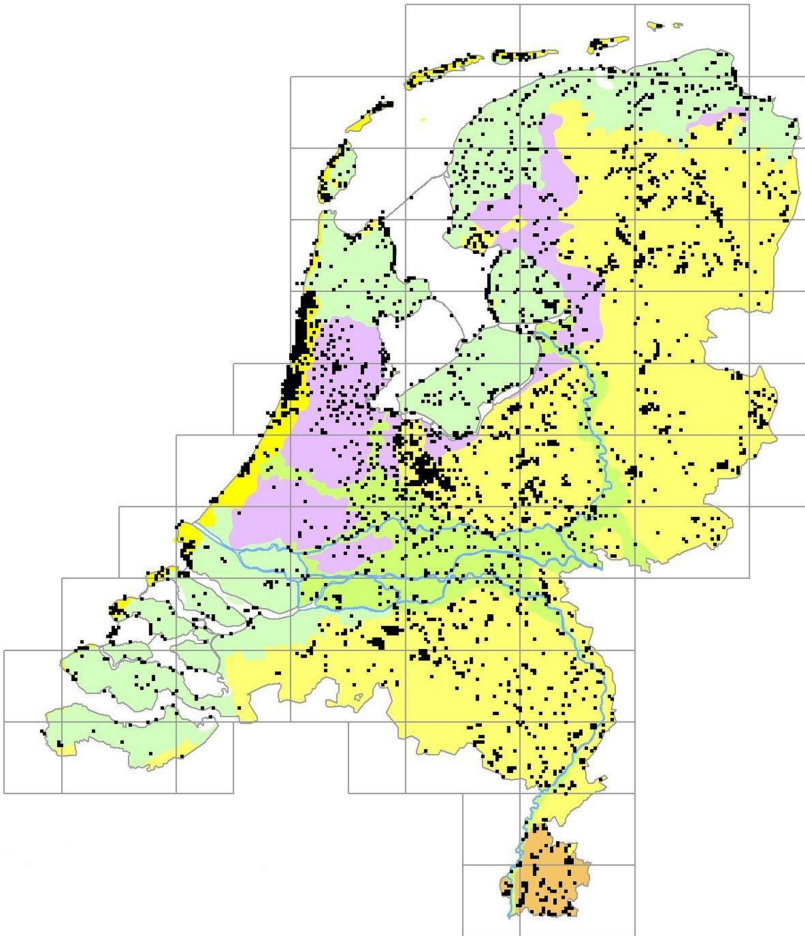


Figure 17. André made 121,000 observations of lichens in 2,918 square km grids in the Netherlands. Source: National Database Flora and Fauna.



Anzia centrifuga

Assessment by: Aptroot, A., Perez-Ortega, S & Scheidegger, C.



Figure 18. *Anzia centrifuga* from the island of Porto Santo. Photo: Laurens Sparrius.



Figure 19. *Coccocarpia neglecta*, discovered by André by spotting differences in the configuration of the isidia toward *C. domingensis* from half a meter away. To put this into perspective: the individual lobules are less than 0.5 mm wide.

Grube, William Buck, and various Costa Rican colleagues, including Loengrin Umaña-Tenorio, José Luis Chaves, and Enia Navarro. It was an enriching experience to learn from André about all of these special lichens one normally overlooks, observing him teaching the secrets of field lichenology to students, and working jointly on the taxonomic identifications of the numerous collections, resulting in various collaborative publications (e.g., Lücking et al. 2006, 2007, 2008; Aptroot et al. 2008; Sipman et al. 2012). In one particular instance, André was visiting the

Field Museum in Chicago to work with Robert on diverse groups, including *Coccocarpia*. Robert was identifying a specimen as *C. domingensis*, but André, sitting about half a meter away, remarked dryly that it could not be that species because the isidia did not look right. Note: the isidia are really tiny and to Robert it seemed impossible that one could discern any differences or peculiarities from half a meter away. But sure enough, André was once more right with his incredible eyesight: after some checking, the new species *C. neglecta* was born (Fig. 19), differing from *C. domingensis* in the laminal rather than marginal, cylindrical rather than flattened isidia (Lücking et al. 2007).

Indeed, André's exceptional eye for the unusual, small, easily overlooked and weird lichens is almost legendary. One can witness this not only when accompanying him in the field, but also from the countless published inventories he coauthored regularly list unusual taxa rarely dealt with elsewhere and often with only few collections known globally or even novel. An example is *Collemopsidium crassostreicola*, growing on living *Crassostrea* shells on the southern Brazilian coast (Aptroot & Gumboski 2025). A highly specialized substrate André is very fond of and from which he and colleagues have reported unique lichen communities are termite nests (Aptroot & Cáceres 2014; Cáceres & Aptroot 2016; Barbosa et al. 2019). André is also an avid photographer, having contributed numerous images to websites such as *Pictures of Tropical Lichens* [<https://www.tropicallichens.net>].



Figure 20. André performing in a concert in Amersfoort, the Netherlands, in May 2012.

And finally, did André have time to do anything else besides lichenology? Yes, he is married and has a son and daughter from a previous marriage. He used to play the violin and, for many years, was part of an orchestra, occasionally performing concerts (Fig. 20). And while traveling, he is usually reading sci-fi books instead of looking at his smartphone.

Acknowledgements

We thank Mounes Bakhshi and Paul Kirk for providing data from Index Fungorum on new taxa described by André Aptroot. David Hawksworth placed the photograph of André's doctoral defense at our disposal, and Adriano Spielmann contributed two additional photographs. Two anonymous reviewers helped to improve the manuscript.

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