DOI: 10.17110/StudBot.2021.52.1.17 Studia bot. hung. 52(1), pp. 17–40, 2021

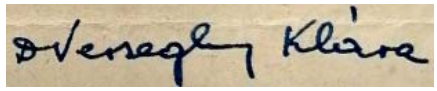
IN MEMORIAM KLÁRA VERSEGHY (1930–2020)

Edit Farkas[1]*, László Lőkös[2], Nóra Varga[1] and Katalin Veres[1]

[1]*Institute of Ecology and Botany, Centre for Ecological Research, H–2163 Vácrátót, Alkotmány u. 2–4, Hungary; *farkas.edit@ecolres.hu, veres.katalin@ecolres.hu, varga.nora@ecolres.hu*

[2]*Department of Botany, Hungarian Natural History Museum, H–1431 Budapest, Pf. 137, Hungary; lokos.laszlo@nhmus.hu*

Farkas, E., Lőkös, L., Varga, N. & Veres, K. (2021): In memoriam Klára Verseghy (1930–2020). – *Studia bot. hung.* **52**(1): 17–40.



Abstract: Dr Klára Verseghy (1930–2020), a student of the famous Hungarian lichenologist Ödön Szatala, was working as the curator of the lichen collection of the Hungarian Natural History Museum, Budapest between 1958 and 1985. She did a great development in the lichen herbarium arranging and registering the big collections of F. Fóriss, V. Gyelnik and Ö. Szatala in the Zahlbruckner's system. Separating the type specimens she prepared also the type catalogue of the lichen collection in 1964. Approximately 5,000 lichen specimens were collected by herself in several

areas of Hungary (e.g. Bakony Mts, Hortobágy, Kiskunság, Praenoricum, Vendvidék, Villány Mts, Zemplén Mts) and *ca* 1,500 specimens from other countries (e.g. Finland, Norway, Poland, Romania, Slovakia, Sweden, Turkey and Ukraine). She published more than a hundred scientific and popular papers mainly on floristics, taxonomy, plant physiology and bioindication. Altogether 46 new taxa (19 species, 27 varieties and forms) and 69 new combinations were described by her. Following her taxonomic revisions (*Caloplaca*, *Gasparrinia*, *Ochrolechia*, *Squamaria*, *Squamarina* spp.) and floristical studies she prepared her main work "Magyarország zuzmóflórájának kézikönyve (The handbook of the Hungarian lichen flora)" in 1994. Her publications (106, including 23 in popular subject), her revisions and thousands of lichen specimens, the genus *Verseghya* and two species, *Verseghya klarae* and *Verseghya thysanophora* named after her preserve her memories.

Key words: bibliography, biography, Hungary, Klára Verseghy, lichens

BIOGRAPHY

Klára Anna Verseghy was born on 2 February 1930 in Budapest. She was the only child of her parents, Károly Verseghy, an officer and Gabriella Uhlai, a housewife. They lived in the 19th district (Rákóczi utca 64), then in the 9th district of Budapest (in Napfény utca 22) (Figs 1–4). She studied in elementary, then secondary grammar school and university in Budapest. She graduated at the Eötvös Loránd University as a teacher for biology and chemistry in 1953. Then she started to work in the Hungarian Natural History Museum, Budapest at the beginning in the Library and soon became the curator of the Lichen Collections (Figs 5–8). She continued this job during 32 years following Ödön Szatala, the former curator (Figs 9–12).

Especially, at the beginning of her career she was very active in writing popular papers (Verseghy 1959–1968) and having also lectures on lichens for a wider public. Later she concentrated on her scientific work with increasing international relevance, mostly in German language after she had and Intermediate level exam in 1969. In 1972 she was donated a decoration from the government for her excellence showed during 20 years of her work.

Figs 1–4. Klára Verseghy in her childhood.

Figs 5–8. Klára Verseghy as university student and young museologist.

Figs 9–12. Klára Verseghy in her 30s–50s.

At her late thirties she married Dr Árpád Patay (agricultural engineer) and moved to the second district of Budapest (Pasaréti út 44) (Figs 13–14). Her husband worked for the National Seed Testing Institute (Budapest). Later she indicated her name change with abbreviation P. and sometimes as Verseghy-Patay in her publications.

Klára Verseghy was the most active in the field of lichenology from 1953 to 1985, however her last major work on the Hungarian lichen flora was pub-

Figs 13–14. Husband Árpád Patay and wife Klára Verseghy.

lished during her retirement period (Verseghy 1994). Klára Verseghy and her husband used to spend their summer holidays at Lake Balaton in their small weekend house in Balatonfenyves. They moved from Budapest to Keszthely (Ruszek József u. 55) near the Lake Balaton after 1985, where she completed the manuscript "Magyarország zuzmóflórájának kézikönyve. (The handbook of the Hungarian lichen flora)". Her students (Edit Farkas and László Lőkös) and her followers (Katalin Molnár, Nóra Varga) visited her there for various occasions (joint publication, editing the flora, nearby field work, conference visit, etc.) (Fig. 15). Her home was a detached house with a lovely garden (Figs 16–18), where she could stay among a lot of flowers (roses, tulips, hyacynths), fruit trees (cherry, peach) and vegetables she needed for her kitchen. She lived there with her beloved husband and after his death alone for about two decades long. Though they had no children and finally she lived alone for a long time and kept contact with her friends from Budapest only by phone, never complained of being lonely. Probably the extended memories of her rich life with various field and herbarium activities and foreign journeys filled her days also for long years after

Fig. 15. Katalin Molnár, László Lőkös, Klára Verseghy and Edit Farkas in Keszthely, 2010.

Figs 16–17. Details of Klára Verseghy's garden in Keszthely, 2013.

Fig. 18. Klára Verseghy, Laura Lőkös, Edit Farkas and László Lőkös in Keszthely, 2013.

Fig. 19. Klára Verseghy playing piano in her home, 2013.

these happened. She enjoyed the wonderful atmosphere of Lake Balaton and the company of the nice, friendly and helpful people lived in the city and in her surroundings. We were lucky to learn one of her secrets keeping her in good health – she used to play her piano frequently and even in 2013 she was able to play long music pieces by heart (Fig. 19).

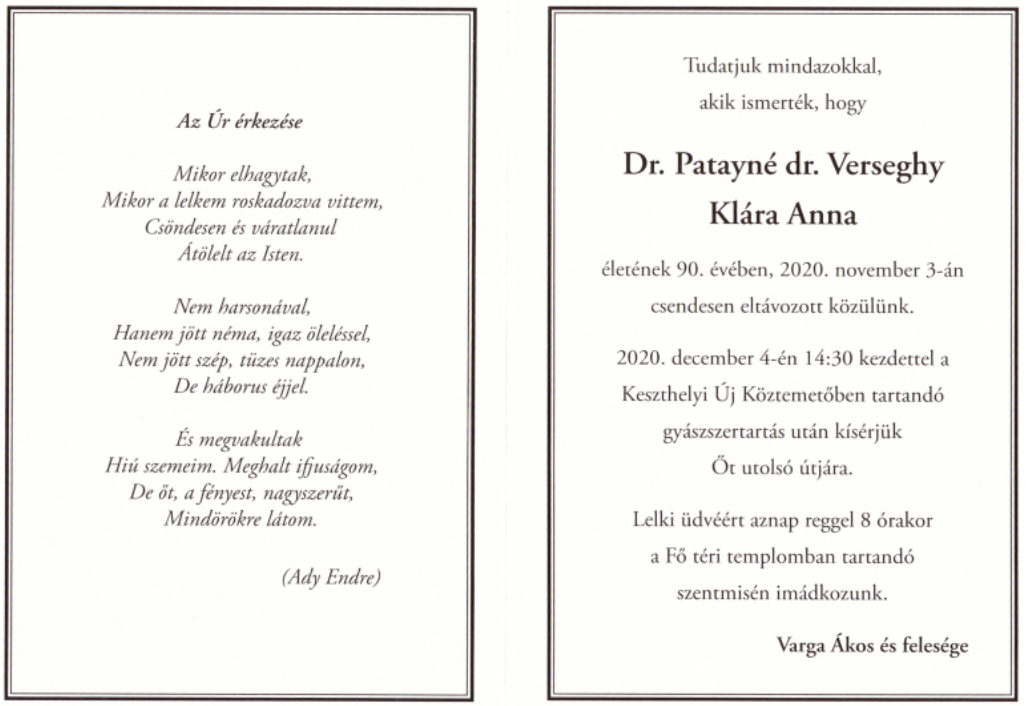
She had 106 publications, 23 on popular subjects among them.

She passed away on 3 November 2020, Keszthely (Fig. 20).

SCIENTIFIC WORK

Taxonomic studies

She prepared her university doctoral studies on the European revision of the genus *Ochrolechia* (supervised by Ö. Szatala), based on several publications of this work (Verseghy 1956, 1958*e*, 1959*a*). She defended her thesis "Az európai *Ochrolechia* fajok monográfiája. (Monographie der europäischen *Ochrolechia*-Arten)" (Verseghy 1958*a*) in Botany Department of the Kossuth Lajos University, Debrecen in 1958. She summarised the results also in "Die Gattung



Az Úr érkezése

Mikor elhagytak,
Mikor a lelkem roskadozva vittem,
Csöndesen és váratlanul
Átölelt az Isten.

Nem harsonával,
Hanem jött néma, igaz öleléssel,
Nem jött szép, tüzes nappalon,
De háborus éjjel.

És megvakultak
Hiú szemeim. Meghalt ifjuságom,
De őt, a fényest, nagyszerűt,
Mindörökre látom.

(Ady Endre)

Tudatjuk mindazokkal,
akik ismerték, hogy

Dr. Patayné dr. Verseghy
Klára Anna

életének 90. évében, 2020. november 3-án
csendesen eltávozott közülünk.

2020. december 4-én 14:30 kezdettel a
Keszthelyi Új Köztemetőben tartandó
gyászszertartás után kísérjük
Őt utolsó útjára.

Lelki üdvéért aznap reggel 8 órakor
a Fő téri templomban tartandó
szentmisén imádkozunk.

Varga Ákos és felesége

Fig. 20. Mourning report about the death (3 November 2020) and the burial ceremony (4 December 2020) of Klára Verseghy.

Ochrolechia" in *Nova Hedwigia Beih.* in 1962 (Verseghy 1962*a*) (Fig. 21). Later she often revised identification of lichenologists from various countries and had further notes on *Ochrolechia inaequatula* (Nyl.) Zahlbr. and *O. subviridis* (Höeg.) Erichs. (Verseghy 1969*a*, *b*).

In addition, she studied genera *Caloplaca* (Verseghy 1973*c*), *Gasparrinia* (Verseghy 1970*b*, 1971*c*, 1972*a*), *Squamaria* and *Squamarina* (Verseghy 1965*b*, 1966) in more details. During the preparation of the handbook on the lichen flora of Hungary one new taxon and 19 new combinations were described, revisions of 112 type specimens from Hungary, and evaluations of 64 other taxa were carried out (Verseghy 1988).

In the above taxonomic publications altogether 46 taxa were described and 69 taxa were recombined by her during her entire publication period:

19 new species: *Caloplaca vitellinoides* Verseghy, *Ochrolechia apiculata* Verseghy, *O. balcanica* Verseghy, *O. californica* Verseghy, *O. chilensis* Verseghy, *O. elisabethae-kolae* Verseghy, *O. gallica* Verseghy, *O. groenlandica* Verseghy, *O. harmandii* Verseghy, *O. madeirensis* Verseghy, *O. osorioana* Verseghy, *O. pennsylvanica* Verseghy, *O. peruensis* Verseghy, *O. pulvinata* Verseghy, *O. pustulosa*

Verseghy, *O. subpallescens* Verseghy, *O. szatalaensis* Verseghy, *O. tenuissima* Verseghy, *O. tuckermanii* Verseghy.

27 new infraspecific taxa: *Diploschistes praematricus* var. *plana* Verseghy, *Ochrolechia alboflavescens* f. *subfarinosa* Verseghy, *O. alboflavescens* var. *plana* Verseghy, *O. californica* f. *crenata* Verseghy, *O. frigida* f. *alaskana* Verseghy, *O. frigida* f. *solida* Verseghy, *O. harmandii* f. *albidocinerea* Verseghy, *O. harmandii* f. *granulosa* Verseghy, *O. harmandii* f. *plicata* Verseghy, *O. harmandii* f. *pustulata* Verseghy, *O. pallescens* f. *coronata* Verseghy, *O. pallescens* f. *pulverulenta* Verseghy, *O. pallescens* var. *krempelhuberi* Verseghy, *O. parella* f. *angulosa* Verseghy, *O. parella* f. *striata* Verseghy, *O. parella* f. *tenuis* Verseghy, *O. parella* var. *kretaeensis* Verseghy, *O. pulvinata* var. *ecorticata* Verseghy, *O. subpallescens* f. *uruguayensis* Verseghy, *O. szatalaensis* var. *macrospora* Verseghy, *O. tartarea* f. *effigurata* Verseghy, *O. tartarea* var. *effigurata* Verseghy, *O. tartarea* var. *pycnidiifera* Verseghy, *O. upsaliensis* f. *continua* Verseghy, *O. yasudae* f. *muscicola* Verseghy, *Squamaria garovaglioi* f. *zempleniana* Verseghy, *S. muralis* f. *dispersella* Verseghy.

69 new combinations: *Aspicilia radiosa* f. *crenulata* (Gyeln.) Verseghy, *A. radiosa* f. *nigromarginata* (Szatala) Verseghy, *A. radiosa* var. *myrrhina* (Ach.) Verseghy, *A. silicea* (Gyeln.) Verseghy, *A. silicea* var. *tofinea* (Gyeln.) Verseghy, *Caloplaca flavorubescens* f. *microthelia* (Ach.) Verseghy, *C. salicina* f. *microthelia* (Ach.) Verseghy, *C. velana* f. *leucotis* (A. Massal.) Verseghy, *C. velana* var. *diffracta* (A. Massal.) Verseghy, *Cladonia furcata* f. *pustarum* (Szatala) Verseghy, *C. furcata* f. *vagans* (Tomin) Verseghy, *Gasparrinia aurantia* f. *areolata* (Th. Fr.) Verseghy, *G. aurantia* f. *leucothalla* (Malbr.) Verseghy, *G. aurantia* f. *sciophila* (G. Mey.) Verseghy, *G. baumgartneri* (Zahlbr.) Verseghy, *G. biatorina* var. *baumgartneri* (Zahlbr.) Verseghy, *G. biatorina* var. *gyalolechioides* (Müll. Arg.) Verseghy, *G. cirrochroa* f. *calcicola* (Anzi) Verseghy, *G. cirrochroa* f. *leprosa* (Lamy) Verseghy, *G. decipiens* f. *cinerascens* (Erichsen) Verseghy, *G. decipiens* f. *compacta* (Arnold) Verseghy, *G. decipiens* f. *leprosa* (Arnold) Verseghy, *G. decipiens* f. *sublaevata* (Mereschk.) Verseghy, *G. heppiana* (Müll. Arg.) Verseghy, *G. heppian*a f. *centrifuga* (A. Massal.) Verseghy, *G. heppiana* f. *centroleuca* (A. Massal.) Verseghy, *G. heppiana* var. *papillata* (Poelt) Verseghy, *G. rubelliana* (Ach.) Verseghy, *G. schistidii* (Anzi) Verseghy, *Ochrolechia aggregata* (Bagl.) Verseghy, *O. alboflavescens* var. *turneri* (Sm.) Verseghy, *O. androgyna* f. *granulosa* (Räsänen) Verseghy, *O. androgyna* f. *leprosa* (Nyl.) Verseghy, *O. androgyna* f. *tatrica* (Gyeln.) Verseghy, *O. androgyna* var. *saxorum* (Oeder) Verseghy, *O. anomala* (Harm.) Verseghy, *O. frigida* f. *microcarpa* (Th. Fr.) Verseghy, *O. frigida* var. *inspersa* (Vain.) Verseghy, *O. harmandii* var. *oceanica* (Räsänen) Verseghy, *O. hawaiiensis* (Räsänen) Verseghy, *O. isidiata* (Malme) Verseghy, *O. laevigata* (Räsänen) Verseghy, *O. ocelliformis* (Vain.) Verseghy, *O. pallescens* f. *crenularia* (Cromb.) Verseghy, *O. pallescens* f. *laevigata* (Grognot) Verseghy, *O. pallescens* f. *nivea* (Cromb.) Verseghy,

O. papillata (Räsänen) Verseghy, *O. pergranulosa* (Räsänen) Verseghy, *O. pseudotartarea* (Vain.) Verseghy, *O. rosella* (Müll. Arg.) Verseghy, *Parmelia taractica* f. *angustiphylla* (Gyeln.) Verseghy, *Phaeophyscia orbicularis* var. *virella* (Ach.) Verseghy, *Physconia grisea* var. *hillmannii* (Lynge) Verseghy, *P. grisea* var. *pityrea* (Ach.) Verseghy, *P. pulverulenta* f. *imbricata* (B. de Lesd.) Verseghy, *P. pulverulenta* f. *superfusca* (Zahlbr.) Verseghy, *P. pulverulenta* var. *angustata* (Hoffm.) Verseghy, *P. pulverulenta* var. *turgida* (Schaer.) Verseghy, *P. pulverulenta* var. *venusta* (Ach.) Verseghy, *Placolecanora muralis* f. *imbricata* (Szatala) Verseghy, *P. muralis* var. *versicolor* (Pers.) Verseghy, *Squamaria albomarginata* f. *lignicola* (J. J. Kickx f.) Verseghy, *S. demissa* (Flot. ex Körb.) Verseghy, *Squamarina crassa* f. *melaloma* (Ach.) Verseghy, *S. crassa* f. *subcerebrina* (Zahlbr.) Verseghy, *S. crassa* var. *bullosa* (Flagey) Verseghy, *S. crassa* var. *caespitosa* (Vill.) Verseghy, *S. crassa* var. *subcaespitosa* (Gyeln.) Verseghy, *S. crassa* var. *subfossulata* (Zahlbr.) Verseghy.

Floristical results in Hungary

Her main floristical studies due to her extended field work concentrated on less studied parts of Hungary (W-Hungary: "Praenoricum", 58 taxa – Verseghy (1964*a*); W-Hungary: "Vendvidék", 170 taxa – Verseghy (1966–1971*a*); Tapolca basin, 370 taxa – Verseghy (1968*c*); Balaton Uplands: "Balatonfelvidék", 254 taxa – Verseghy (1965*c*); Bakony Mts, 290 taxa – Verseghy (1973*b*); Villány Mts, 55 taxa – Verseghy (1973*a*); Zemplén Mts, 119 taxa – Verseghy (1965*d*); Hortobágy National Park, 88 taxa – Verseghy (1982*c*); Kiskunság National Park, 219 taxa – Verseghy (1983*a*, 1985), Lőkös and Verseghy (2001); County Békés, 60 taxa – Verseghy (1986)). These floristical papers may still serve as a reliable basis for further more thorough floristical explorations and for nature conservation activities of the given area. She published papers also on the Central European distribution of *Candelariella coralliza*, the Hungarian distribution of *Lasallia pustulata* (Verseghy 1965*f* as *Umbilicaria pustulata*). She spent *ca* 340 days in field work during her active working years. Her field trips in Hungary were usually in the company of her colleagues from the museum and from elsewhere: Zsuzsa Páricsyné Komáromy, Júlia Szujkóné Lacza, Gábor Fekete, Zsolt Debreczy, Tibor Szerdahelyi, Konstantin Dobolyi, György Szollát, Dezső Kováts, Tibor Simon, Edit Láng.

For determinations she normally used traditional Zeiss microscopes and the identification books, which were available at that time mostly in German language (Bertsch 1964, Erichsen 1957, Gams 1967, Hillmann-Grummann 1957, Lindau 1923, and the Rabenhorst's series (1930–1960). For Cladonias she preferred Anders (1928) with black and white phototables. Later on she studied Henssen (1963), Poelt (1969), Poelt and Vězda (1977, 1981) and

finally Wirth (1980). In lack of good quality pictures and illustrations (which are common today), she had to use predominantly the well identified voucher specimens for comparison (it was the normal practice) or the critical, questionable specimens were sent to specialists for identification or confirmation.

Her taxonomic revisions (*Caloplaca*, *Gasparrinia*, *Ochrolechia*, *Squamaria*, *Squamarina* spp.) and floristical studies formed the basis of her main work "The handbook of the Hungarian lichen flora" in 1994 (Fig. 22).

Floristical results in foreign countries and her own collection trips abroad

Her contribution to the knowledge on lichens of South Africa was based on collections of O. A. Hoeg publishing material identified by V. Gyelnik, Ö. Szatala and herself (Verseghy 1963*d*). The study of lichens collected by Sándor Mágocsy-Dietz included specimens of a wide taxonomic range mostly from the surroundings of Eperjes and various parts of county Ung of historical Hungary/ the northern part of the Carpathian Basin (Verseghy 1984).

She participated also in foreign collecting trips listed below in chronological order: Czechoslovakia (Tatra Mts, 12–17 May 1960), Romania (Bucegi Mountains, 18 July–19 August 1962), Poland (Puszcza Kampinoska, Warszawa, 27 August 1963), Sweden (Uppland, 9 September–15 October 1966), Czechoslovakia (Fatra Mts, Fatranski Kriván, 8 May 1969), Soviet Union (Donets Basin, July 1975), Turkey (Uludag, Bursa, Bythinian Olympos, 3–10 July 1978), Norway (Oslo, Bergen, Trondheim, Hordaland, Oppland, 20 June–11 July 1981), Finland (Helsinki, Turku, Kuopio, Oulu, Oulanka, Kevo, Savonia borealis, Kuusamo, Lappland: Utsjoki, 15 April–15 June 1982), Austria (11 July 1981, 20–25 September 1982).

As a result of these trips, several specimens were published in exsiccate schedae (Verseghy 1969*c*, *d*, 1981*a*, *b*) and in her floristical study of lichens of Turkey (Verseghy 1982*a*).

Management of the lichen collection

As a curator she did a great development in the lichen herbarium from the beginning of her employment. The herbaria of various collectors kept independently at that time were combined and rearranged. The specimens collected in Hungary and foreign countries were placed in separate folders. She arranged systematically and registered the whole herbarium including the big collections of F. Fóriss, V. Gyelnik and Ö. Szatala according to the Zahlbruckner's system (Zahlbruckner 1926). In 1964 she separated more than a thousand specimens from the main collection deposited in the Natural History Musem, Budapest (BP), clarified their typification status and compiled the "Typen-Verzeichnis der Flechtensammlung in der Botanischen Abteilung des

Ungarischen Naturwissenschaftlichen Museums" (Verseghy 1964*b*, 1968*d*, 1974*a*, 1981*c*). It contained registration and collection data of 1,090 type specimens, confirming 504 holotypes (of 177 species and of 307 infraspecific taxa) and establishing 586 further types (among them 76 isotypes, 230 syntypes and 10 lectotypes), though some of these data need further critical treatment. She made considerable efforts keeping the lichen collection in Zahlbruckner's system continuously following Zahlbruckner (1926) and his catalogues (Zahlbruckner 1922–1940), however later it had to be rearranged in alphabetical order by the genera, since by the 1980s it became more and more difficult to incorporate the new genera.

Two series of lichen exsiccates were managed and issued by her: "Lichenotheca parva" (Verseghy 1969*d*, 1981*b*) – initiated by Gyelnik (Kőfaragó-Gyelnik 1937) – and "Lichenes exsiccati" (Verseghy 1969*c*, 1981*a*) including 90 and 145 numbers, respectively from all over the world.

Her collections were mounted, labelled and treated by her assistant, Frigyesné Lehoczky (born Erika Katona, 1959–2021), who later contributed greatly to the developing database of the Hungarian collection of lichens.

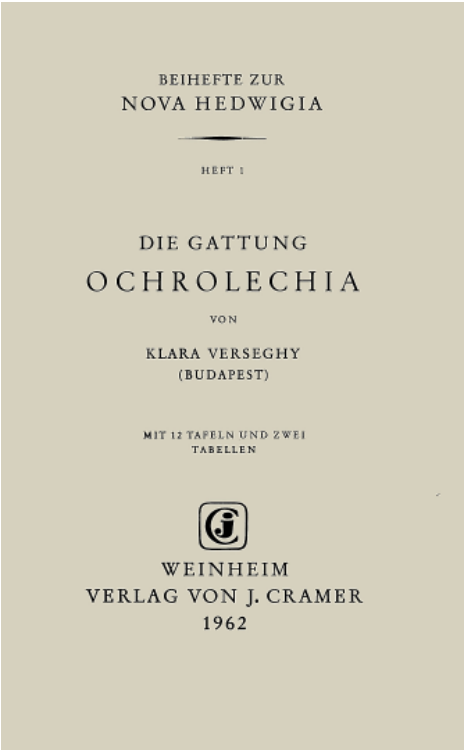


Fig. 21. The first important publication of Klára Verseghy in 1962.

Fig. 22. Klára Verseghy's main work from 1994.

Production biology, physiology and ecophysiology of lichens

The International Biological Programme (IBP) had an important role in research also in Hungary from 1967 to the 1970s. Within the framework of IBP many questions have been answered about the terricolous lichen community abundant in semi-arid sandy grasslands in Csévharaszt due to the cooperation of Klára Verseghy and Edit Láng. Besides characterising the whole community, the physiological processes (e.g. water balance, biomass production) in the dominant species of the different plant associations were followed up during vegetation periods by them.

It was revealed that the amount of liquid water absorbed by the thallus is directly proportional, and the rate of water loss is inversely proportional to the thickness of the cortex (Verseghy 1971*b*). The water balance is species-specific because of the heterogeneous thallus structure and influenced mainly by the thickness of the cortex, gonidial layer, and the amount of crystals on hyphae (Verseghy 1971*b*). In addition, a seasonal change in the thallus structure was also detected (Verseghy 1976*a*, *b*). The layers within thalli vary both quantitatively and qualitatively during the year. The thickness of the medulla fluctuates more extensively than that of the cortex. The seasonal change of the gonidial layer (thickness, aggregation of algae) also shows a species-specific pattern. The species differ in the timing of changes, growth and necrosis of the layers within the thalli influencing the water holding capacity variously. The water absorption capacity (both liquid and vapour) showed a seasonal pattern in *Cladonia foliacea* and *C. furcata*: it was the highest during autumn and the lowest during summer in both species (Verseghy *et al.* 1987). The results are significant because different lichen species can utilise the various kinds of precipitation – changing during the seasons – differently. They also interpret the longevity of the active life period of lichens in different seasons.

The abundance and role of lichens in sandy grassland communities are significant; therefore, the investigation of production (Verseghy and Kovács-Láng 1971, Verseghy 1977), productivity (Verseghy 1979*c*), turnover of material exchange (Kovács-Láng and Verseghy 1975, Verseghy and Kovács-Láng 1975) or seasonal change of the chlorophyll contents are important. The first measurements of lichen production within semi-arid grasslands were carried out by Verseghy (1976*a*). The mean production was 1520–1700 kg/ha/month according to the closure of grassland, and it showed a seasonal pattern: it was lower in summer and winter, higher in spring and the highest in autumn. It was also described that different environmental factors are determined during the seasons (Verseghy 1976*a*). The seasonal changes in the biomass of the lichens cannot be explained only by environmental factors. The anatomical changes, the

development of certain phenophases, fructification, senescence, and the dynamism of growth are all related to productivity (Verseghy 1976*a*, *b*). The lichen biomass showed a species-specific response, a minimum in summer and one or two maxima in late spring and autumn according to the type of vascular plant association (Verseghy and Kovács-Láng 1971, Verseghy 1977). It was shown that the total lichen production depends on the character of the vascular plant associations: it is decreasing with the closing of the grassland (Verseghy and Kovács-Láng 1971). Besides biomass production, lichens have a significant role in the Ca turnover of the grassland. The Ca content of the lichens is much higher than that of the Gramineae species constituting an association with them, while the level of K, P and total N are lower in the lichens (Verseghy 1982*b*). All the turnover rate of lichen biomass and the three elements/ions (Ca^{2+}, K^{+}, total-N) is higher in the perennial grassland (*Festucetum vaginatae*) than in the annual one (*Brometum*) (Kovács-Láng and Verseghy 1975, Verseghy 1982*b*). The Ca^{2+} turnover proved to be the quickest in the lichens, while that of the nitrogen, the slowest. The processes of mineral material exchange are uniformly slower in summer compared to winter (Verseghy 1982*b*), and the Ca content is also seasonally changing (lower in summer, spring and higher in winter and autumn (Kovács-Láng and Verseghy 1975). However, the climatic factors affecting the turnover processes are season-specific (Verseghy 1982*b*). A remarkable seasonal fluctuation was detected in N content that was species-specific depending on the thallus structure, and the N level was higher in annual than in the perennial grassland association (Verseghy and Kovács-Láng 1975).

The chlorophyll content of the investigated species also showed a seasonal species-specific pattern and depended on the association where lichen thalli occurred (Verseghy 1972*b*). It was revealed that both the biomass production and chlorophyll content decrease with the closing vegetation; however, there was no correlation detected between the two measured parameters (Verseghy 1972*b*).

The succession of both the terricolous and epiphyte lichen vegetation on the territory of Kiskunság National Park is presented by Verseghy (1983*a*). The environmental factors (substratum, macro- and microclimate) influencing the formation and development of lichen vegetation are also detailed. The ecological, environmental need of several xerophyte terricolous lichen species is described in detail (Verseghy 1974*b*, 1975*c*).

During an extended investigation, the significant role of precipitation in spore production was demonstrated in many kinds of lichens (Verseghy 1965*g*). It was also revealed that the degree of extinction of gonidia is similar to the lack of ascospore production (Verseghy 1965*g*). The different type of vegetation associations also influences the reproduction. The formation of apothecia was the

most extensive in more closed forest-steppe communities and in perennial grass-steppe communities in the case of *Cladonia furcata* than in the more open annual grasslands (Verseghy 1983*b*).

Based on above investigations Klára Verseghy defended her dissertation on "Zuzmóprodukció, produktivitás és annak feltételei száraz homoki gyepekben. (Lichen-production, -productivity and its conditions in xerophytic grasslands on sandy soil)" for the degree "candidate of biological sciences" on 5th February 1980 (Verseghy 1979*c*).

Lichens and air pollution

After completing research for her dissertation she started to deal with air pollution bioindication in Budapest. She supervised two university MSc theses on lichen mapping (Farkas 1982) and on heavy metal accumulation in transplanted samples (Lőkös 1983) in Budapest. The results were published together with her students Edit Farkas and László Lőkös (Farkas *et al.* 1985, Verseghy and Farkas 1985). Four lichen zones – the outermost normal zone, two transitional struggle zones, and the boundary of the lichen desert were established towards the centre of the city. Heavy metal concentration was the highest in the city centre and also near the main roads with heavy traffic compared to sites in larger distance from them. Especially, the lead pollution due to fuel was possible to justify.

History of science

As an invited contribution to the monumental biographical monograph on the lichenologists of the world (Grummann 1974) she compiled a historical biographic work "Die Lichenologen Ungarns" on Hungarian lichenologists and published it also independently (Verseghy 1963*c*). She wrote a detailed biography and complete bibliography of László Gallé (1908–1980), emphasising the importance of his role in taxonomic, floristical and coenological fields in Hungarian lichenology (Verseghy 1980).

She prepared "A catalogue of the new lichen names described by Ö. Szatala" listing 583 taxa from 53 publications of Ö. Szatala (Verseghy 1963*a*).

On the occasion of the centenary of the Department of Botany she compiled the history of the lichen herbarium of the Hungarian Natural History Museum (Verseghy 1970*a*), and also on the occasion of the centenary of the Botany Section (Hungarian Biological Society) she gave a short commemoration on the history of Hungarian lichenology (Verseghy 1991*a*, *b*).

National and international relations and reputation

Klára Verseghy had a short contact with her predecessor Ödön Szatala sen., who suggested also the topic of her doctoral dissertation. Later she had contact also with F. Fóriss, L. Felföldy, Ö. Szatala jun., M. Kovács, T. Simon, E. Kovács-Láng, K. Németh-Mázsa, L. Gallé, A. Kiszely-Vámosi, P. Solymosi, T. Kiss and several other botanists who requested identification of lichen specimens for their research.

For decades Klára Verseghy represented Hungarian lichenology worldwide travelling to study trips and international scientific conferences. Her study trips are as follows by year and country: 1971 – Czechoslovakia (Praha, Brno); 1974, 1981 – Austria; 1974 – France; 1974 – Spain (Barcelona); 1975 – Russia (XII International Botanical Congress); 1978 – Turkey (2nd International Symposium on Balkan Flora and Vegetation); 1987 – Germany (W-Berlin, XIV International Botanical Congress).

She had a lecture with the title "Quantitative investigation of xerothermophilous Lichenes of sandy soil" in the XII International Botanical Congress in Leningrad (today Saint Petersburg), 1975 (Borhidi *et al.* 1976) (Fig. 23). She presented on "Water relations and nitrogen turnover of lichens in xerothermic habitats" in the XIV International Botanical Congress in W-Berlin, 1987.

Fig. 23. Klára Verseghy with Hildur Krog (left) during the XII IBC probably in the Donets Basin excursion, 1975.

She kept closer contacts with e.g., Aino Henssen (Marburg, Germany) (Fig. 24), Matti Kauppi (Oulu, Finland) (Figs 25–26), Hildur Krog (Oslo, Norway), Harald Riedl (Vienna, Austria) and corresponded with several other lichenologists of her time.

Due to these contacts she received help with important literature sources and could complete her publications most often in German, but sometimes in English language. Hildur Krog helped her to study her Turkish collection, when thin layer chromatography was not available in the Natural History Museum (Verseghy 1982*a*). She could use fluorescence microscopy with Matti Kauppi in Finland studying the localisation of lichen secondary metabolites in various lichen thalli together (Kauppi and Verseghy-Patay 1990). Several lichenologists (e.g., Ivan Pišút (Bratislava, Slovakia), Harrie J. M. Sipman (Berlin, Germany)) also visited her in the Lichen Herbarium (BP). Some of her colleagues visited her in Hungary also during her retirement period. Perhaps her last foreign visitor was Anna Guttová (Bratislava, Slovakia) in 2010 (Fig. 27).

Fig. 24. Aino Henssen (middle) with Klára Verseghy and her husband, Árpád Patay probably in Keszthely, 1995.

Figs 25–26. Klára Verseghy in her retirement period. The Finnish lichenologist Matti Kauppi in the company of Klára Verseghy.

Fig. 27. Klára Verseghy and Anna Guttová in Keszthely, 2010.

Her publications (bibliography listed below) and the following taxa named after her (Kondratyuk *et al.* 2016, 2019) preserve her memories:

Verseghya S. Y. Kondr., L. Lőkös et Hur in Kondratyuk et al., Acta bot. hung. 58(1–2): 104 (2016).

Verseghya klarae S. Y. Kondr., L. Lőkös et Hur, in Kondratyuk et al., Acta bot. hung. 58(1–2): 105 (2016).

Verseghya thysanophora (R. C. Harris) S. Y. Kondr., L. Lőkös, Farkas et Hur, in Kondratyuk et al., Acta bot. hung. 61(1–2): 158 (2019).

BIBLIOGRAPHY

Verseghy, K. (1953*a*): Aki megelőzte Pasteurt. – *Népszava* **81**(266): 2.

Verseghy, K. (1953*b*): Hírek a magyar népi demokráciából. Aki megelőzte Pasteurt. – *Magyar Hírek* **6**(51): 22–23.

Verseghy, K. (1956): Studien über die Gattung Ochrolechia I. – *Annls hist.-nat. Mus. natn. Hung., ser. nov.* **7**: 283–298 (1955).

Verseghy, K. (1958*a*): *Az európai Ochrolechia fajok monográfiája.* (Monographie der europäischen Ochrolechia-Arten). – Egyetemi doktori disszertáció, Debrecen, 108 pp.

Verseghy, K. (1958*b*): Die endemischen Flechten der Karpaten und des Karpatenbeckens. – *Annls hist.-nat. Mus. natn. Hung.* **50**(ser. nov. 9): 65–73.

Verseghy, K. (1958*c*): Lichenológiai közlemények I. A Candellariella coralliza (Nyl.) H. Magn. előfordulása Közép-Európában. (Lichenologische Mitteilungen I. Das Vorkommen der Candellariella coralliza (Nyl.) H. Magn. in Ungarn). – *Bot. Közlem.* **47**(3–4): 281–282, 285.

Verseghy, K. (1958*d*): Lichenológiai közlemények II. A sátorhegységi "jeges" barlang és környékének zuzmói. (Lichenologische Mitteilungen II. Die Flechten der "eisige" Höhle und ihrer Umgebung des Sátorgebirges). – *Bot. Közlem.* **47**(3–4): 282–285.

Verseghy, K. (1958*e*): Studien über die Gattung Ochrolechia II. Neue Flechten. – *Annls hist.-nat. Mus. natn. Hung.* **50** (ser. nov. 9): 75–85.

Verseghy, K. (1959*a*): Studien über die Gattung Ochrolechia III. Angaben zur Chemie der Ochrolechia-Arten. – *Annls hist.-nat. Mus. natn. Hung.* **51**: 145–159.

Verseghy, K. (1959*b*): Zuzmók hasznosítása. – *Term. Tud. Közl.* **90**(4): 177–179.

Verseghy, K. (1959*c*): A zuzmókról. – *Élet és Tudomány* **14**(1): 20–22.

Verseghy, K. (1959*d*): *A növény- és az állatélet jelenségeinek hasonlósága.* – Élet és Tudomány Kalendáriuma, Gondolat Kiadó, Budapest, pp. 53–55.

Verseghy K. (1960*a*): *Állatok és növények együttélése.* – Élet és Tudomány Kalendáriuma, Gondolat Kiadó, Budapest, pp. 76–79.

Verseghy K. (1960*b*): Állat vagy növény? – *Élet és Tudomány* **15**(2): 42–44.

Verseghy K. (1960*c*): *A növények asszimilációja és lélegzése.* – Élet és Tudomány Kalendáriuma, Gondolat Kiadó, Budapest, pp. 229–232.

Verseghy K. (1960*d*): A tatai természetvédelmi terület növényzete. – *Term. Tud. Közl.* **91**(7): 310–311.

Verseghy K. (1960*e*): *Gibberellinek. Új, növekedést szabályozó növényi hormonok.* – Élet és Tudomány Kalendáriuma, Gondolat Kiadó, Budapest, pp. 162–165.

Verseghy K. (1960*f*): *Növények virág és gyökér nélkül.* – Élet és Tudomány Kalendáriuma, Gondolat Kiadó, Budapest, pp. 108–110.

Verseghy, K. (1961*a*): A Graphis scripta Ach. (Lichenes) gonidiumára vonatkozó vizsgálatok. (Untersuchungen der Gonidien der Graphis scripta Ach.). – *Bot. Közlem.* **49**(1–2): 95–99.
Verseghy K. (1961*b*): *A fermentumok*. – Élet és Tudomány Kalendáriuma, Gondolat Kiadó, Budapest, pp. 374–376.
Verseghy, K. (1961*c*): A Magas-Tátra alpesi növényrégiójában. (In the alpine floral region of the High Tatra Mountains). – *Term. Tud. Közl.* **92**(8): 376.
Verseghy, K. (1961*d*): Sókedvelő baktériumok. (Halophilous bacteria). – *Term. Tud. Közl.* **92**(9): 412–413.
Verseghy, K. (1961*e*): Szimbiózis-e a mikorriza? (Mycorrhyza – a case of symbiosis ?). – *Term. Tud. Közl.* **92**(2): 85–86.
Verseghy, K. (1962*a*): Die Gattung Ochrolechia. – *Nova Hedwigia Beih.* **1**: 1–146.
Verseghy, K. (1962*b*): *Mi okozza a virágok színét*? – Élet és Tudomány Kalendáriuma, Gondolat Kiadó, Budapest, pp. 188–189.
Verseghy, K. (1962*c*): *Növényei szörnyek*. – Élet és Tudomány Kalendáriuma, Gondolat Kiadó, Budapest, pp. 326–328.
Verseghy, K. (1963*a*): A catalogue of the new lichen names described by Ö. Szatala. – *Lichenologist* **2**(2): 178–189.
Verseghy, K. (1963*b*): Csigaházon élő zuzmó. – *Term. Tud. Közl.* **94**: 137.
Verseghy, K. (1963*c*): Die Lichenologen Ungarns. – *Feddes Repert.* **68**(2): 107–129.
Verseghy, K. (1963*d*): South African lichens from the collectings of O. A. Hoeg. – *Nova Hedwigia* (Suppl.) **4**(3–4): 579–582.
Verseghy, K. (1964*a*): Adatok a Praenoricum zuzmóflórájához. (Beiträge zur Kenntnis der Flechtenflora des Florenbezirkes Praenoricum). – *Savaria, a Vas Megy. Múz. Ért.* **2**: 55–65.
Verseghy, K. (1964*b*): *Typen-Verzeichnis der Flechtensammlung in der Botanischen Abteilung des Ungarischen Naturwissenschaftlichen Museums*. – Természettudományi Múzeum, Budapest, 146 pp.
Verseghy, K. (1965*a*): *A baktériumok élete*. – Élet és Tudomány Kalendáriuma, Gondolat Kiadó, Budapest, pp. 215–218.
Verseghy, K. (1965*b*): A hazai Squamaria és Squamarina fajok I. Általános rész és határozókulcsok. – *Bot. Közlem.* **52**(3): 121–129.
Verseghy, K. (1965*c*): Adatok a Balatonfelvidék zuzmóflórájához. (Beiträge zur Flechtenflora des Balatonoberlandes). – *Veszprém Megy. Múz. Közlem.* **4**: 341–355.
Verseghy, K. (1965*d*): Angaben zur Flechtenflora des Zemplén-Gebirges I. Strauch- und Laubflechten. (Adatok a Zemplén hegység zuzmóflórájához). – *Fragmenta Botanica* **3**(1–4): 41–75.
Verseghy, K. (1965*e*): Die Pflanzenwelt der Höhlen bei Lillafüred. – *Int. J. Speleology* **5**(1): 553–560.
Verseghy, K. (1965*f*): Die Verbeitung [sic!] von Umbilicaria pustulata Hffm. und ihre gesellschaftlichen Verhältnisse in Ungarn. – *Annls hist-nat. Mus. natn. Hung., Pars Bot.* **57**: 159–164.
Verseghy, K. (1965*g*): Effect of dry periods on the spore production of lichens. – *Acta Biol. Hung.* **16**(1): 85–104.
Réti, E. and Verseghy, K. (1965): Egy régi könyv mai tanulságai. (Today's lessons of an old book). – *Élővilág* **10**: 243–246.
Verseghy, K. (1966): Squamaria und Squamarina-Arten in Ungarn II. Systematischer Teil. – *Bot. Közlem.* **53**(1): 11–23.
Verseghy, K. (1967*a*): A sugárveszély a növényvilágban. – *Élet és Tudomány* **22**(17): 801–805.
Verseghy, K. (1967*b*): Csapdát rejtő virágok. – *Élet és Tudomány* **22**(6): 257–261.
Verseghy, K. (1968*a*): A virágzástól a gyümölcsérésig. – *Élet és Tudomány* **23**(41): 1950–1953.
Verseghy, K. (1968*b*): A Szigligeti Arborétum zuzmói. (Die Flechten des Arboretums Szigliget). – *Veszprém Megy. Múz. Közlem.* **7**: 233–235.

Verseghy, K. (1968*c*): A Tapolca-medence zuzmói. (Flechten aus dem Tapolcaer Becken). – *Veszprém Megy. Múz. Közlem.* **7**: 171–186.
Verseghy, K. (1968*d*): Nachtrag I. zum "Typenverzeichnis der Flechtensammlung in der Botanischen Abteilung des Ungarischen Naturwissenschaftlichen Museums". – *Fragmenta Botanica* **6**(1–4): 41–55.
Verseghy, K. (1968*e*): [Recensio] Hale, M. E.: The biology of lichens. – *Acta Biol. Acad. Sci. Hung.* **19**: 364.
Verseghy, K. (1969*a*): Die Verbreitung der Ochrolechia inaequatula Nyl. in der Alpen. – *Fragmenta Botanica* **7**: 61–65.
Verseghy, K. (1969*b*): Systematische Auswertung der Ochrolechia subviridis (Höeg.) Erichs. – *Fragmenta Botanica* **7**: 55–59.
Verseghy, K. (1969*c*): [Schedae] Lichenes exsiccati. Fasc. I–II. No. 1–100. – *Fragmenta Botanica* **7**: 77–92.
Verseghy, K. (1969*d*): [Schedae] Lichenotheca parva. Fasc. III–V. No. 41–100. – *Fragmenta Botanica* **7**: 67–76.
Verseghy, K. (1970*a*): *A zuzmógyűjtemény története.* – In: Szujkó-Lacza, J. (ed.): 100 éves a Növénytár. (Historie der Botanischen Abteilung des Ungarischen Naturwissenschaftlichen Museums). Budapest, pp. 195–204, (manuscr.)
Verseghy, K. (1970*b*): Hazai Gasparrinia fajok I. Általános rész. (Gasparrinia-Arten in Ungarn I. Allgemeiner Teil). – *Bot. Közlem.* **57**(1): 23–29.
Verseghy, K. (1970*c*): *Magyarországi zuzmófajok katalógusa és kódszáma.* – ELTE Növényrendszertani Intézete számára, Budapest, manuscr.
Verseghy, K. (1970*d*): [Recensio] Kreisel, H.: Grundzüge eines natürlichen Systems der Pilze. 1969 Jena, pp. 245. – *Acta Biol. Acad. Sci. Hung.* **21**: 250–251.
Verseghy, K. (1966–1971*a*): A Vendvidék zuzmói. (Die Flechten des Vend-Gebietes). – *Savaria, a Vas Megy. Múz. Ért.* **4**: 31–43.
Verseghy, K. (1971*b*): Angaben über den Wasserhaushalt einiger Xerotherm-Erdflechten. – *Annls hist.-nat. Mus. natn. Hung., Pars Bot.*, **63**: 83–97.
Verseghy, K. (1971*c*): Hazai Gasparrinia fajok II. Rendszertani rész. (Gasparrinia-Arten in Ungarn II. Systematischer Teil). – *Bot. Közlem.* **58**(1): 21–28.
Verseghy, K. and Kovács-Láng, E. (1971): Investigations on production of grassland communities of sandy soil in the IBP area near Csévharaszt (Hungary). I. Production of Lichens. – *Acta Biol. Acad. Sci. Hung.* **22**(4): 393–411.
Verseghy, K. (1972*a*): Hazai Gasparrinia fajok III. Rendszertani rész (befejezés). (Gasparrinia-Arten in Ungarn III. Systematischer Teil). – *Bot. Közlem.* **59**(1): 13–18.
Verseghy, K. (1972*b*): Néhány xerotherm zuzmófaj klorofilltartalmának szezonális változása. (Saisonale Veränderung des Chlorophyllgehaltes einiger xerothermen Flechtenarten). – *Bot. Közlem.* **59**(2): 109–117.
Verseghy, K. (1973*a*): A Villányi-hegység zuzmóvegetációja. (Die Flechtenvegetation des Villányer Gebirges). – *Bot. Közlem.* **60**(3): 157–162.
Verseghy, K. (1973*b*): Az Északi- és a Keleti-Bakony zuzmóvegetációja. (Die Flechten-Vegetation des Nord- und Ost-Bakony-Gebirges). – *Veszprém Megy. Múz. Közlem.* **12**: 169–182.
Verseghy, K. (1973*c*): Caloplaca-Arten in Ungarn. (Hazai Caloplaca-fajok). – *Studia bot. hung.* **8**: 33–64.
Verseghy, K. (1973*d*): *Zuzmóprodukció-biológiai vizsgálatok pannon xerotherm homoki gyepekben.* – IBP kiadványsorozat részére. (manuscr.)

Verseghy, K. (1974*a*): Nachtrag II. zum "Typenverzeichnis der Flechtensammlung in der Botanischen Abteilung des Ungarischen Naturwissenschaftlichen Museums". – *Studia bot. hung.* **9**: 23–29.

Verseghy, K. (1974*b*): Talajlakó xerofiton zuzmófajok ökológiája és elterjedése Magyarországon. I. (Ökologie und Verbreitung der bodenbewohnenden xerophytischen Flechtenarten in Ungarn). – *Studia bot. hung.* **9**: 31–42.

Verseghy, K. (1975*a*): [Recensio] Henssen, A. and Jahns, H. M.: Lichenes 1974 Stuttgart. – *Acta Biol. Acad. Sci. Hung.* **26**: 51.

Verseghy, K. (1975*b*): *Quantitative investigation of xerothermophilous lichens of sandy soil.* – XII. International Botanical Congress, Leningrad, Abstracts, p. 70.

Verseghy, K. (1975*c*): Talajlakó xerofiton zuzmófajok ökológiája és elterjedése Magyarországon (II.) s néhány taxon revíziója. (Ökologie und Verbreitung der bodenbewohnenden xerophytischen Flechtenarten in Ungarn (II), und Revision einiger Taxonen). – *Studia bot. hung.* **10**: 41–61.

Kovács-Láng, E. and Verseghy, K. (1975): Seasonal changes in the K+ and Ca++ contents of terricolous xerophyton lichen species and their soils. – *Acta Agron. Acad. Sci. Hung.* **23**(3–4): 325–333. (1974).

Verseghy, K. and Kovács-Láng, E. (1975): Role of lichens in the Nitrogen turnover of grassland communities on sandy areas. – *Acta Agron. Acad. Sci. Hung.* **24**(1–2): 19–28.

Verseghy, K. P. (1976*a*): Quantitative investigation of xerothermophilous lichens of sandy soil. – *Annls hist.-nat. Mus. natn. Hung.* **68**: 59–63.

Verseghy, K. (1976*b*): Xerofiton zuzmófajok anatómiai vizsgálata. (Anatomical investigations on xerophytous lichen species). – *Studia bot. hung.* **11**: 35–48.

Borhidi, A., Faludi-Dániel, Á., Hajdú, L., Isépy, I., Kovács, M., Pócs, T., Priszter, Sz., Sárkány, S., Verseghy, K., Verzár-Petri, G. and Vörös, J. (1976): Beszámoló a XII. Nemzetközi Botanikai Kongresszusról. (Bericht über den XII.-sten Internationalen Botanischen Kongres). – *Bot. Közlem.* **63**(3): 177–188.

Szujkó-Lacza, J., Kováts, D., Orbán, S., Verseghy. P. K., Komáromy, P. Zs. and Hajdu, L. (1976): Néhány egyszerű módszer a Hortobágyi Nemzeti Park (HNP) növényfajainak és vegetációjának tanulmányozásához. (Some simple methods for studying the species and vegetation of Hortobágy National Park (HNP)). – *Studia bot. hung.* **11**: 83–106.

Verseghy, K. (1977): Investigation on lichen production of grassland communities of sandy soil II. – *Acta Biol. Acad. Sci. Hung.* **28**(1): 25–32.

Verseghy, K. P. (1979*a*): *Produkcióbiológiai vizsgálatok néhány problémája és eredménye a marxista filozófia tükrében*. – manuscr.

Verseghy, K. P. (1979*b*): [Recensio] W. Frey, M. Hurka, F. Oberwinkler (eds): Beiträge zur Biologie der niederen Pflanzen. 1977 Stuttgart-New York, Gustav Fischer Verlag, pp. 233. – *Acta Bot. Acad. Sci. Hung.* **25**(1–2): 171–172.

Verseghy, K. P. (1979*c*): *Zuzmóprodukció, produktivitás és annak feltételei száraz homoki gyepekben*. [Lichen-production, -productivity and its conditions in xerophytic grasslands on sandy soil]. – PhD Dissert., Budapest, 153 pp. (manuscr.)

Verseghy, K. P. (1980): Gallé László 1908–1980. – *Bot. Közlem.* **67**(3): 167–171.

Verseghy, K. (1981*a*): [Schedae] Lichenes exsiccati. Fasc. III. No. 101–145. – *Studia bot. hung.* **15**: 49–52.

Verseghy, K. (1981*b*): [Schedae] Lichenotheca parva. Fasc. VI. No. 101–130. – *Studia bot. hung.* **15**: 53–55.

Verseghy, K. (1981*c*): Nachtrag III. zum "Typenverzeichnis der Flechtensammlung in der Botanischen Abteilung des Ungarischen Naturwissenschaftlichen Museums". – *Studia bot. hung.* **15**: 45–47.

Verseghy, K. P. (1982*a*): Beiträge zur Kenntnis der türkischen Flechtenflora. – *Studia bot. hung.* **16**: 53–65.

Verseghy, K. P. (1982*b*): Productivity and turnover of xerotherm lichen species. – *Acta Bot. Acad. Sci. Hung.* **28**(3–4): 411–425.

Verseghy, K. P. (1982*c*): *The lichen flora of the Hortobágy National Park.* – In: Szujkó, J. (ed.): The Flora of the Hortobágy National Park. Akadémiai Kiadó, Budapest, pp. 91–95.

Verseghy, K. P. (1983*a*): Lichenológiai vizsgálatok a Kiskunsági Nemzeti Park területén. (Lichenological investigations in the Kiskunság National Park). – *Bot. Közlem.* **70**(1–2): 61–69.

Verseghy, K. P. (1983*b*): Phänologische Untersuchungen der Art Cladonia furcata (Hds.) Schrad. (Lichenes). – *Annls hist.-nat. Mus. natn. Hung.* **75**: 55–60.

Verseghy, K. P. (1984): Zuzmók Mágocsy-Dietz Sándor gyűjtéséből. (Flechten aus der Sammlung von Sándor Mágocsy-Dietz). – *Bot. Közlem.* **71**(1–2): 157–161.

Verseghy, K. P. (1985): 1.5. *Zuzmóflóra.* – In: Tóth, K. (ed.): Tudományos kutatások a Kiskunsági Nemzeti Parkban 1975–1984, p. 102.

Verseghy, K. and Farkas, E. (1985): Untersuchungen der Luftverunreinigung im Gebiet von Budapest mit Hilfe der Flechtenkartierung als Indikatoren. – *Ann. Univ. Sci. Budapest., Sect. Biol.* **24–26**: 163–184 (1984).

Farkas, E., Lőkös, L. and Verseghy, K. (1985): Lichens as indicators of air pollution in the Budapest Agglomeration. I. Air pollution map based on floristic data and heavy metal concentration measurements. – *Acta Bot. Acad. Sci. Hung.* **31**(1–4): 45–68.

Verseghy, K. P. (1986): *Békés megye zuzmói.* – In: Réthy, Zs. (ed.): Környezet- és természetvédelmi évkönyv 7: 83–87.

Verseghy-Patay, K. (1987): *Water relations and nitrogen turnover of lichens in xerothermic habitats.* – In: Greuter, W., Zimmer, B. and Behnke, H.-D. (eds): Abstract of the General Lectures, Symposium Papers and Posters, XIV International Botanical Congress, Berlin, p. 378.

Verseghy, K. P., Kovács-Láng, E. and Mázsa, K. (1987): Diurnal and seasonal changes of thallus water content of xerothermic lichens. – *Lichen Physiol. Biochem.* **2**: 23–36.

Verseghy, K. (1988): Magyarországi zuzmóflóra revíziójának eredményei. (Ergebnisse der Revision der Flechtenflora von Ungarn). – *Bot. Közlem.* **74–75**(1–2): 31–46 (1987–88).

Verseghy-Patay, K. (1988): *Flechtenflora von Ungarn floristische Veranderungen in unserem Jahrhundert.* – In: Marhold, K. (ed.): Proceedings of the International Workshop of COMECOM countries, Smolenice, pp. 134–135.

Kauppi, M. and Verseghy-Patay, K. (1990): Determination of the distribution of lichen substances in the thallus by fluorescence microscopy. – *Ann. Bot. Fennici* **27**(2): 189–202.

Verseghy, K. P. (1991*a*): A hazai zuzmókutatás története. In: 100 éves a Magyar Biológiai Társaság Botanikai Szakosztálya, Budapest-Szombathely. – *Biotár* **7**: 21.

Verseghy, K. P. (1991*b*): *A hazai zuzmókutatás története.* (The history of Hungarian lichenology). – *Bot. Közlem.* (Suppl.) **78**: 25–27.

Verseghy, K. P. (1991*c*): *Zuzmók – Lichenes.* – In: Simon, T. (ed.): Baktérium-, alga-, gomba-, zuzmó- és mohahatározó. Tankönyvkiadó, Budapest, pp. 575–674.

Verseghy, K. (1994): *Magyarország zuzmóflórájának kézikönyve.* (The lichen flora of Hungary). – Magyar Természettudományi Múzeum, Budapest, 415 pp.

Verseghy, K. (2001): *Zuzmók – Lichenes.* – In: Simon, T. (ed.): Baktérium-, alga-, gomba-, zuzmó- és mohahatározó. 2nd ed. Nemzeti Tankönyvkiadó, Budapest, pp. 613–713.

Lőkös, L. and Verseghy, P. K. (2001): *The lichen flora of the Kiskunság National Park and the southern part of the Danube–Tisza Interfluve*. – In: Lőkös, L. and Rajczy, M. (eds) (1999): The Flora of the Kiskunság National Park. Vol. 2. Cryptogams. Magyar Természettudományi Múzeum, Budapest, pp. 299–362.

* * *

Acknowledgements – We are indebted to Klára Verseghy for placing her personal photographs at our disposal. We are also grateful Dániel Pifkó (Budapest), and the Library of the Hungarian Natural History Museum for biographic data from the archive collection. Our work was supported by the National Research Development and Innovation Fund, grant number NKFI K 124341.

Összefoglaló: Dr. Verseghy Klára (1930–2020), a neves magyar lichenológus id. Szatala Ödön tanítványa, 1958-tól 1985-ig volt a Magyar Természettudományi Múzeum (Budapest) zuzmógyűjteményének vezetője. Pályája kezdetén nagy hangsúlyt kapott a gyűjtemények egységes leltározása. A különálló gyűjteményrészek (régi gyűjtemény, Gyelnik, Szatala majd Fóriss gyűjteményei) egyesítését követően, leltárba vette az akkor több tízezres gyűjteményt, rendszertani sorrendbe rendezte (Zahlbruckner-féle rendszer), majd a könnyebb kezelhetőség céljából szétválasztotta a magyarországi és a külföldi példányokat, valamint leválogatta, elkülönítette és katalogizálta a mintegy 1000 típuspéldányt. Saját gyűjteséivel, exsiccata sorozatok cseréjével és vétel útján fejlesztette a herbáriumot. Közel 350 napot töltött terepen, mintegy 5000 hazai (pl. Bakony, Hortobágy, Kiskunság, Praenoricum, Vendvidék, Villányi-hegység, Zempléni-hegység) és *ca* 1500 külföldi (pl. Finnország, Lengyelország, Norvégia, Románia, Svédország, Szlovákia, Törökország és Ukrajna) példánnyal gyarapította a zuzmógyűjteményt. Több mint 100 tudományos és népszerűsítő cikket publikált főként a florisztika, a taxonómia, az élettan, a produkcióbiológia és a bioindikáció tudományterületekről. Összesen 46 tudományra új zuzmótaxont (19 faj, 27 változat és forma) írt le és 69 új kombinációt közölt. Florisztikai és taxonómiai kutatásaira (*Caloplaca*, *Gasparrinia*, *Ochrolechia*, *Squamaria*, *Squamarina* spp.) alapozva 1994-ben jelentette meg főművét a "Magyarország zuzmóflórájának kézikönyvét". Publikációi (83 tudományos és 23 népszerűsítő), gyűjteményi revíziói, az általa gyűjtött példányok ezrei, továbbá a tiszteletére, róla elnevezett *Verseghya* nemzetség és a *Verseghya klarae* és *V. thysanophora* fajok őrzik emlékét.

ADDITIONAL REFERENCES

Anders, J. (1928): *Die Strauch- und Laubflechten Mitteleuropas. Anleitung zum Bestimmen der in Mitteleuropa vorkommenden Strauch- und Laubflechten*. – Fischer, Jena, 217 pp.

Bertsch, K. (1964): *Flechtenflora von Südwestdeutschland*. 2. ed. – Verlag Eugen Ulmer, Stuttgart, 251 pp.

Erichsen, C. F. E. (1957): *Flechten von Nordwestdeutschland*. – Gustav Fischer Verlag, Stuttgart, 411 pp.

Farkas, E. (1982): *Légszennyeződési vizsgálatok Budapest területén zuzmó-bioindikátorokkal*. (Air pollution investigations in Budapest by lichen bioindicators). – MSc Thesis, ELTE TTK Növényrendszertani és -ökológiai Tanszék, Budapest, 91 pp.

Farkas, E. (2021): Klára Verseghy (1930–2020). – *International Lichenological Newsletter* **54**(1): 22–23.

Gams, H. (1967): *Kleine Kryptogamenflora. Band III. Flechten (Lichenes)*. – Gustav Fischer Verlag, Stuttgart, 244 pp.

Grummann, V. (1974): *Biographisch-Bibliographisches Handbuch der Lichenologie*. – J. Cramer, Lehre, 839 pp.

Henssen, A. (1963): Eine Revision der Flechtenfamilien Lichinaceae und Ephebaceae. – *Symb. Bot. Upsal.* **18**(1): 1–123.

Hillmann, J. and Grummann, V. (1957): *Kryptogamenflora der Mark Brandenburg und angrenzender Gebiete. Band VIII: Flechten*. – Gebrüder Borntraeger, Berlin-Nikolassee, 898 pp.

Kőfaragó-Gyelnik, V. 1937: [*Schedae] Lichenotheca parva.* Fasc. I–II. No. 1–40. – Budapest.

Kondratyuk, S. Y., Lőkös, L., Farkas, E., Oh, S.-O. and Hur, J.-S. (2016): New and noteworthy lichen-forming and lichenicolous fungi 4. – *Acta Bot. Hung.* **58**(1–2): 75–136. https://doi.org/10.1556/034.58.2016.1-2.4

Kondratyuk, S. Y., Lőkös, L., Jang, S.-H., Hur, J.-S. and Farkas, E. (2019): Phylogeny and taxonomy of Polyozosia, Sedelnikovaea and Verseghya of the Lecanoraceae (Lecanorales, lichen-forming Ascomycota). – *Acta Bot. Hung.* **61**(1–2): 137–184. https://doi.org/10.1556/034.61.2019.1-2.9

Lindau, G. (1923): *Die Flechten. Kryptogamenflora für Anfänger, III*. – Jul. Springer, Berlin, 252 pp.

Lőkös, L. (1983): *Transzplantált zuzmóminták atomabszorpciós nehézfémanalízise Budapest területén*. (Atomic absorption analysis of heavy metal contents of lichens transplanted at Budapest). – MSc Thesis, ELTE TTK Növényrendszertani és -ökológiai Tanszék, Budapest, 59 pp.

Poelt, J. (1969): *Bestimmungsschlüssel europäischer Flechten*. – J. Cramer, Lehre, 757 pp.

Poelt, J. and Vězda, A. (1977): Bestimmungsschlüssel europäischer Flechten. Ergänzungsheft I. – *Bibl. Lichenol.* **9**: 1–258.

Poelt, J. and Vězda, A. (1981): Bestimmungsschlüssel europäischer Flechten. Ergänzungsheft II. – *Bibl. Lichenol.* **16**: 1–390.

Rabenhorst's *Kryptogamen-Flora von Deutschland, Österreich und der Schweiz*. (1931–1960): Band IX. Flechten. 10 Volumes. – Akad. Verlagsgesellsch. M. B. H., Leipzig,

Wirth, V. (1980): *Flechtenflora. Bestimmung und ökologische Kennzeichnung der Flechten Südwestdeutschlands und angrenzender Gebiete*. – UTM, Ulmer, Stuttgart, 552 pp.

Zahlbruckner, A. (1926): *Lichenes (Flechten)*. – In: Engler, A. and Prantl, K.: Die Natürlichen Pflanzenfamilien nebst ihren Gattungen und wichtigeren Arten, insbesondere den Nutzpflanzen, ed. 2. 8B. Wilhelm Engelmann, Leipzig, pp. 61–270.

Zahlbruckner, A. (1922–1940): *Catalogus Lichenum Universalis*. – 10 Volumes. Borntraeger, Leipzig, 7,360 pp.

(submitted: 15.03.2021; accepted: 20.06.2021)