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‘Polish’ Taxa – A Contribution to the History of Botanical Nomenclature

The scientific Latin names of plants, fungi and algae have different origins. The subject of this work is toponyms related to the geography of Poland or Polish lands, broadly defined. Based on database searches for names of plants, fungi and algae, a set of 503 taxonomic names was obtained, containing 68 different toponyms. Most of them were derived from a variation of the word(s) ‘Poland’ – 125, followed by the ‘Tatra Mountains’ – 74, and the ‘Carpathians’ – 40. The oldest of the ‘Polish’ toponyms were already included in the first edition of *Species plantarum* by Carl Linnaeus. These were *Ranunculus cassubicus*, *Trifolium melilotus-polonica* and *Vicia cassubica* and, in the second edition, *Triticum polonicum*. These toponyms have their roots in pre-Linnean times. Over the past 270 years, we can see a characteristic sequence in creating such names. First, until 1883, they were given only to plants, and since 1802 – to bryophytes. At least 246 toponymic names were created. Then, 207 names were created for algae and 12 for fossil algae. And finally, for fungi (including lichens and slime molds) 29 have been created since 1889. For paleospecies – 11. In the second half of the 19th c. and the period before World War II, the names of plants and other organisms were much more often derived from the toponym ‘Poland’. It can be assumed that this was the result of the political situation at that time. During the Partition era, botanists sought to express their patriotism, and after the reestablishment of the Polish state, they demonstrated their joy at regaining independence. Historical analysis of toponyms revealed non-scientific factors that have influenced toponymy for nearly 270 years.

Keywords: history of botany in Poland, 18th–21st c., toponymy, Latin names of plants, fungi, and algae

Słowa kluczowe: historia botaniki w Polsce, XVIII–XXI w., toponimia, łacińskie nazwy roślin, grzybów i glonów

Introduction

Giving a name to a newly discovered species is the privilege of its discoverer. The publication of *Species plantarum*¹ by Carl Linnaeus in 1753 is considered the beginning of the modern binomial nomenclature of plants. Yet the continuing lack of regulations regarding the creation of scientific Latin names of new plant taxa often led to misunderstandings, such as the creation of synonymous names. It was only from the second half of the 19th c. that further rules for creating such names were gradually established, and in the 20th c. these rules were gathered in subsequent editions of the *Code of Botanical Nomenclature*. The regulations of the latest iteration of this code, the *International Code for Nomenclature for Algae, Fungi and Plants*,² define contemporary rules and conditions that must be met for a given species to be correctly named and for the name given to meet precise regulations.

The scientific Latin names of plants have different origins or meanings.³ These names can be grouped in several ways, with one notable category being toponyms. Toponyms are the names of taxa formed from, among other things, the names of countries, cities, rivers or regions. More often, these are specific epithets, more rarely they are generic names. The goal of this study is to discuss toponyms related to the geography of Poland or, broadly defined, Polish lands.

Materials and methods

The list of scientific Latin names of plants, algae, and fungi containing ‘Polish’ toponyms was created by searching several available online databases. Toponyms in the names of vascular plants were searched in the *World Flora Online*,⁴ *Plants of the World Online*⁵ and *Vascular Plants of Poland*,⁶ while the names of algae were searched in *AlgaeBase*,⁷ *Index Nominum Algarum*⁸ and *Polska Bibliografia Fykologiczna*,⁹ the names of fungi in the *Mycobank Database. Fungal Database, Nomenclature & Species Banks*,¹⁰ and the names of bryophytes in the *Tropicos*.¹¹ An annotated retrospective bibliography of botany at the Krakow Scientific Society, the Academy of Sciences and Letters and the Polish Academy of Sciences and Letters was also searched.¹² Since not all Latin names of taxa have already

1 C. Linnaeus, *Species plantarum* [...], vol. 1–2, Holmiae 1753.

2 *International Code of Nomenclature for Algae, Fungi, and Plants (Shenzhen Code) Adopted by the Nineteenth International Botanical Congress Shenzhen, China, July 2017*, ed. by N.J. Turland, J.H. Wiersema, F.R. Barrie, W. Greuter, D.L. Hawksworth, P.S. Herendeen, P. Knapp, W.-H. Kusber, D.-Z. Li, K. Marhold, T.W. May, J. McNeill, A.M. Monro, J. Prado, M.J. Price, G.F. Smith, Glashütten 2018 (Regnum Vegetabile, vol. 159).

3 Cf. P. Köhler, *O łacińskich nazwach rodzajów i gatunków roślin*, “Wszechświat” 1997, vol. 98, no. 10, p. 239–241.

4 *Kew Royal Botanic Gardes: Plants of the World Online*, www.worldfloraonline.org [accessed 23.06.2024].

5 *Kew Royal Botanic Gardes: Plants of the World Online*, powo.science.keew.org [accessed 23.06.2024].

6 Z. Mirek, H. Piękoś-Mirkowa, A. Zając, M. Zając, *Vascular Plants of Poland. A Checklist. Krytyczna lista roślin naczyniowych Polski*, bomax.botany.pl/ib-db/check/ [accessed 23.06.2024].

7 *AlgaeBase*, www.algaebase.org [accessed 23.06.2024].

8 *Index Nominum Algarum*, ucjeps.berkeley.edu/ina [accessed 24.06.2024].

9 *Polska Bibliografia Fykologiczna*, bomax.botany.pl/ib-db/biblia [accessed 23.06.2024].

10 *Mycobank Database. Fungal Database, Nomenclature & Species Banks*, www.mycobank.org [accessed 23.06.2024].

11 *Tropicos.org. Missouri Botanical Garden*, www.tropicos.org [accessed 24.06.2024].

12 P. Köhler, *Bibliografia botaniki w Towarzystwie Naukowym Krakowskim, Akademii Umiejętności i Polskiej Akademii Umiejętności (1818–1952–2000). Bibliography of Botany at the Academic Society of Cracow, Academy of Sciences and Letters and the Polish Academy of Sciences and Letters (1818–1952–2000)*, Kraków 2004.

been entered into the abovementioned databases, the following discussion is based on a selection of toponyms and is certainly not exhaustive. The analysis included not only the names of plants, but also of algae and fungi (including lichens and slime molds). Both of these groups of organisms have not been classified as plants for several decades. However, because they were once included in botany, they are addressed in the following considerations.

The analysis focused on toponyms, but only those derived from 'Polish' geographical names, not all toponyms. For the purposes of this study, this term will refer to toponyms whose source geographical names refer to objects located within the territory of present-day Poland, the Polish-Lithuanian Commonwealth (at its largest pre-Partition extent) and the Second Polish Republic. Not all geographical units, e.g. the Carpathians or the Sudetes, fit within the political borders that existed at various stages of history. This fact was taken into account.

Geography of toponyms

The boundaries outlined above encompass a vast and diverse area, featuring numerous cities, rivers, two large mountain ranges, various geographical and historical regions, and the sea. Using the method described in the previous section, a dataset of 503 plants, algae and fungi taxa names was obtained, containing 68 distinct toponyms. Most of them were derived from 'Poland' (125), followed by the 'Tatra Mountains' (74) and the 'Carpathians' (40). As can be seen from the list of toponyms (Table 1), the Polish forms used by botanists at that time, regardless of the languages used locally, were applied to the botanical nomenclature. Today, the official names of some geographical features differ from their historical names. For example, Ivano-Frankove was known as Janów in the 19th c. In the list below, modern official names – primarily Ukrainian and Romanian, as opposed to Polish – are enclosed in round brackets.

Table 1. 'Polish' toponyms (various orthographic and grammatical variants) in scientific Latin names of plants, fungi, and algae

No.	Toponym	Source geographical name	Number of taxa described by naturalists		
			connected with Polish botany	others	in total
1	<i>babiogorensis</i> , <i>babiogorensis</i>	Babia Góra – a mountain massif in the Western Beskids, Outer Western Carpathians	6	1	7
2	<i>balticus</i>	the Baltic Sea	1	0	1
3	<i>Berdoense</i>	Berdo – a peak in the Western Bieszczady Mountains, Outer Eastern Carpathians	1	0	1
4	<i>Białowiezense</i>	Białowieża – a village in the Białowieża Forest (now eastern Poland)	4	1	5

5	<i>borysthenica, borysthenicum, borysthenicus,</i>	Dnieper – a river in Eastern Europe with the Greek name Borysthenēs	3	6	9
6	<i>brodense</i>	Brody – a city in Galicia, now in Ukraine	1	0	1
7	<i>bucovinense</i>	Bukovina – a historical land between the Eastern Carpathians and the Dniester River, currently in Romania and Ukraine	1	0	1
8	<i>carpathica, carpathicus, carpatica, carpaticum, carpaticus</i>	Carpathians, Carpathian Mountains	25	14	39
9	<i>cassubica, cassubicus</i>	Cassubia, Kashubia	4	2	6
10	<i>ciarcanense</i>	Ciarkan (Cearcănul) – a peak of the Maramureş Mountains (part of the Inner Eastern Carpathians, now in Romania)	1	0	1
11	<i>cracoviense, cracoviensis</i>	Cracow, Krakow	14	1	15
12	<i>cuiavicum</i>	Cuyavia, Kuyavia	1	0	1
13	<i>czarnohorica</i>	Czarnohora (Chornohora) – a mountain range within the Outer Eastern Carpathians, currently in Ukraine	1	0	1
14	<i>czywczynensis</i>	Czywczyn (Chyvchyn) – the highest peak of the Chyvchyn Mountains, a range within the Inner Eastern Carpathians, currently in Ukraine	3	0	3
15	<i>galiciense, galiciensis</i>	Galicia – the common name of the lands of the Austrian Partition of Poland	5	4	9
16	<i>gorcensis</i>	Gorce Mountains – a mountain range in the Western Outer Carpathians	2	0	2
17	<i>goslaviense</i>	Gośław – a lake near Konin	1	0	1
18	<i>Hryniaviense</i>	Hryniawa (Hryniava) – a mountain stream in Kosiv district, east of Chornohora, currently in Ukraine	1	0	1
19	<i>janoviense</i>	Janów (Yaniv, Ivano-Frankove) – a village near Gródek Jagielloński (Horodok), currently in the Lviv Oblast in Ukraine	1	0	1
20	<i>karniowicensis</i>	Karniowice – a village near Zabierzów, currently in the Lesser Poland Voivodeship	1	0	1
21	<i>Kukulensis</i>	Kukul, Kukuł – a peak in Chornohora, within the Outer Eastern Carpathians, currently in Ukraine	1	0	1
22	<i>lithuanica, lithuanicus, lituanica</i>	Lithuania	19	2	21

23	<i>leopoliense, leopoliensis</i>	Lviv	10	2	12
24	<i>Lomnicense</i>	Łomnica (Limnytsia) – a river, a right tributary of the Dniester	1	0	1
25	<i>lubieniense</i>	Łubień Mały (Malyy Lyubin) – a village near Lviv, currently in Ukraine	1	5	6
26	<i>madueense</i>	Madüsee – now Miedwie, a lake in the West Pomeranian Voivodeship	0	1	1
27	<i>makutrensis</i>	Makutra – a mountain near Brody in Galicia, now in Ukraine	1	0	1
28	<i>mielnicensis</i>	Mielnica, Mielnica Podolska (Melnytsia-Podilska) – a village in the Borshchiv district of Galicia, currently in Ukraine	2	1	3
29	<i>międzyrzecense</i>	Międzyrzec, Międzyrzec Podlaski – a town near Biała Podlaska, currently in the Podlaskie Voivodeship	3	2	5
30	<i>mirovensis</i>	Mirów – a village in the Alwernia commune, Chrzanów County, currently in the Lesser Poland Voivodeship	1	0	1
31	<i>nacladense</i>	Piatra Nacladu – a peak in the Maramureş Mountains (part of the Inner Eastern Carpathians, now in Romania)	1	0	1
32	<i>niepolomicensis, Niepołomicensis</i>	Niepołomice – a city near Krakow	2	0	2
33	<i>oycoviensis</i>	Ojców – a village in Krakow County, currently in the Lesser Poland Voivodeship	1	0	1
34	<i>oslawiensis</i>	Ośława – a river, a left tributary of the San	1	0	1
35	<i>pieniakense</i>	Pieniaki (Peniaky) – a village south of Brody, currently in Ukraine	1	0	1
36	<i>Pietrosii, pietrosuanum</i>	Pietros (Pietrosul) – a peak in the Rodna Mountains (the highest range of the Inner Eastern Carpathians), currently in Romania	2	0	2
37	<i>podlachiae, podlachicum</i>	Podlachia	4	3	7
38	<i>podolica, podolicus</i>	Podolia	22	3	25
39	<i>pocutica, pocuticum</i>	Pokutia	6	0	6
40	<i>polesica</i>	Polesia	2	0	2
41	<i>Polonica, polonica, polonicum, polonicus</i>	Poland	78	47	125
42	<i>pomeranicus</i>	Pomerania	2	1	3
43	<i>posnaniensis</i>	Poznań	2	0	2

44	<i>prutensis</i>	Prut – a river, a left tributary of the Danube, currently the border between Romania and Moldova runs along its stream	1	0	1
45	<i>Samogitiensis</i>	Samogitia	1	0	1
46	<i>sanensis</i>	San – a river, a right tributary of the Vistula	1	0	1
47	<i>sandomiriensis</i>	Sandomierz	1	0	1
48	<i>Sarmatica, sarmatica, sarmaticum</i>	Sarmatia	5	1	6
49	<i>sierszense</i>	Siersza – a village near Trzebinia, currently part of the town of Trzebinia in the Lesser Poland Voivodeship	1	0	1
50	<i>silesiaca, silesiacum, silesiacus</i>	Silesia	9	5	14
51	<i>slopnicensis</i>	Słopnice – a village in Limanowa County, currently in the Lesser Poland Voivodeship	1	0	1
52	<i>sniatyniense</i>	Śniatyn (Sniatyn) – a town in Galicia, currently in Ukraine	1	0	1
53	<i>sokalensis</i>	Sokal – a town on the Bug River in Galicia, currently in Ukraine	1	0	1
54	<i>sokolensis</i>	Sokół (Sokol) – a belt of rocks in the western slopes at the mouth of the Jalovec Valley in the Slovak Western Tatras	1	0	1
55	<i>sudetica, sude-ticum</i>	Sudetes, Sudetic/Sudeten Mountains	2	30	32
56	<i>tarnoviensis</i>	Tarnów	1	0	1
57	<i>tatrae, tatrense, Tatrensis, tatrensis, tatrice, tatricola, tatricum, tatorum</i>	Tatras, Tatra Mountains	58	16	74
58	<i>trojagense</i>	Troiaga – a peak in the Maramureş Mountains (part of the Inner Eastern Carpathians, now in Romania)	1	0	1
59	<i>turkulensis</i>	Turkuł (Turkul) – a peak in the Chornohora range, currently in Ukraine	1	0	1
60	<i>ucrainica</i>	Ukraine	5	0	5
61	<i>varsoviense</i>	Warszawa	1	0	1
62	<i>vistulana, Vistulensis, vistulensis</i>	Vistula River	5	3	8
63	<i>volhynica, volhynicum, volhynicus, volhyniensis</i>	Volhynia	5	1	6
64	<i>Wawelia</i>	Wawel – a hill in Krakow with the royal castle and cathedral	1	0	1

65	<i>wigrense</i>	Wigry – a lake (north-eastern Poland)	3	0	3
66	<i>wislokiensis</i>	Wisłok – a river, a left tributary of the San	1	0	1
67	<i>wołowiecense</i>	Wołowiec – a village near Gorlice, a city in the Lesser Poland Voivodeship, southern Poland	1	0	1
68	<i>wratislaviensis</i>	Wrocław	2	1	3
		In total:	350	153	503

Compiled by the author

Not all source names were identified with complete certainty. In older publications, authors often did not provide the etymology for newly introduced names. Therefore, when multiple physiographic objects with homonymous names were possible, the most likely one was selected (Table 1). For example, the toponym *gosławiense* could have been derived from the village of Gosławice near Tarnów or from Lake Gosławskie located in the Konin district. In this case, the choice was made in favor of the lake, as the name refers to freshwater algae.

Names of various geographic features served as sources of toponyms. Most often – 16 – these sources were historical and ethnographic regions (e.g. Kuyavia, Silesia, Podolia). There were slightly fewer – 13 – cities of various sizes (e.g. Krakow, Sandomierz, Poznań), 12 mountain peaks and 11 villages, as well as 8 rivers and streams. Most toponyms were created from the following three source names.

A. Poland

Toponyms derived from the name ‘Poland’ were created in the years 1753–2022, during which three periods of increased assigning of toponyms from this source name can be distinguished. In the first one, in the 1880s and 1890s, 13 botanists created 25 such toponyms. The authors of the largest number of toponyms were: Marian Raciborski (1863–1917), then working as an assistant at the Jagiellonian University (Krakow)¹³, who was the author of 9 (including one together with Bogumir Eichler), Bogumir Eichler (1843–1905), who was under house arrest in Międzyrzec,¹⁴ authored five (including two with Roman Gutwiński, and one with Raciborski), Bronisław Błocki (1854–1919), assistant professor at the National School of Forest Management in Lviv (Lwów/Lemberg),¹⁵ authored three, and the high school teacher and most outstanding Polish phycologist at that time, Roman Gutwiński (1860–1932),¹⁶ also authored three (including two with Eichler).

The next peak in the frequency of toponyms derived from the name ‘Poland’ occurred between 1910 and 1939, when 20 botanists created 29 toponyms. Among them, Jadwiga

13 A. Zemanek, *Raciborski Marian*, [in:] *Słownik Biograficzny Polskich Botaników*, ed. by P. Köhler, Kraków 2024, p. 564–566.

14 P. Köhler, *Eichler Bogumir*, [in:] *Słownik Biograficzny Polskich Botaników*, p. 148.

15 Idem, *Błocki Bronisław*, [in:] *Słownik Biograficzny Polskich Botaników*, p. 47–48.

16 Idem, *Gutwiński Roman*, [in:] *Słownik Biograficzny Polskich Botaników*, p. 215.

Wołoszyńska (1882–1951), a professor at the Jagiellonian University,¹⁷ contributed four, while the others each created one or two. The third period began in 2000 and, to date, has resulted in the creation of 22 toponyms by 76 botanists, mycologists, and algologists.

The large number of toponyms created by Raciborski is not surprising: during the Partitions, using the name of a homeland that did not exist on the political maps of Europe at that time was a manifestation of deep patriotism, typical of this botanist. It can be assumed that other botanists during the Partitions had similar motivations when creating names in honor of Poland. However, during the interwar period, it may have been driven by pride in regaining independence.

During the Partition period, Poland did not exist as a state, yet botanists unrelated to botany cultivated on Polish lands created 'Polish' toponyms. Such names were often created as a result of various taxonomic revisions of previously described species, e.g. the grass *Gigachilon polonicum* was described by Wenzel Benno Seidl (1773–1842), a Czech-Austrian botanist and entomologist,¹⁸ based on Linnaeus' species *Triticum polonicum*.

In total, the following have been created so far: 74 taxa of algae (including three genera, 40 species, 19 varieties, 12 forms), 37 taxa of plants (36 species and one subspecies), 8 taxa of fungi (including one family, one genus and 6 species), four taxa of paleospecies, and two species of slime molds (formally, these organisms are currently classified as fungi).

B. Tatra Mountains

The first toponym with the word 'Tatras' – *Hieracium tatrae* – was created in 1853¹⁹ by the German taxonomist and phytogeographer August Heinrich Rudolf Grisebach (1814–1879), who was then a professor at the University of Göttingen and the director of the local botanical garden.²⁰ Most of these toponyms were created in the second half of the 19th c. and the first half of the 20th c. Of the names derived from the 'Tatra Mountains', almost 77% are names of algae.

C. Carpathians

The third largest group are toponyms with the root word 'Carpathians'. They were created between 1770 and 2020, with a relatively consistent frequency throughout the period. In total, 34 plant taxa have been created so far (including 30 species, two subspecies, and two varieties), along with three species of fungi, two taxa of algae (one species and one variety), one lichen species, and one paleospecies.

17 Idem, *Wołoszyńska Jadwiga*, [in:] *Słownik Biograficzny Polskich Botaników*, p. 809–810.

18 F. von Berchtold, W.B. Seidl, P.M. Opiz, F.X. Fieber, J. Pfund, *Oekonomisch-technische Flora Böhmens* [...], vol. 1, Prag 1836, p. 425.

19 A. Grisebach, *Commentation de Distributione Hieracii Generis per Europam geographica. Sectio prior. Revisio Specierum Hieracii, in Europa sponte crescentium*, "Abhandlungen der Königlichen Gesellschaft der Wissenschaften zu Göttingen" 1853, vol. 5, p. 153.

20 E. Wunschmann, *Grisebach August*, [in:] *Allgemeine Deutsche Biographie*, vol. 49, Leipzig 1904, p. 551–554.

D. Other geographic names

Based on the remaining 65 geographic names, a total of 266 taxon names were created: 6 in the 18th c., 102 – in the 19th c., 125 – in the 20th c. and 18 – in the 21st c. For 15 taxa, no information was found regarding the year of their publication.

History of selected 'Polish' toponyms

A. 18th century

Toponyms have been created since the very beginning of modern binomial botanical nomenclature, that is, since the publication of *Species plantarum* by Carl Linnaeus in 1753.²¹ Before the introduction of binomial nomenclature, plant name consisted of nomenclature phrases made up of several to a dozen terms. When creating binomial names, Linnaeus often used previously existing phrases, shortening them to two words. The first word typically represented the genus, and the second was (most often) an adjective; both together formed the Latin binomial name of the species.²² This is how the earliest three 'Polish' toponyms were created: *Ranunculus cassubicus*, *Trifolium melilotus-polonica* and *Vicia cassubica*, which were already included in the first edition of *Species plantarum*.

The prototype of the name *Ranunculus cassubicus* was the nomenclature phrase 'Ranunculus rotundifolius vernus sylvaticus major vel cassubicus, folio thorae calthae', which Linnaeus quotes²³ from the work *Prodromi fasciculi*²⁴ by the Gdańsk botanist Jacob Breyne (Breynius) (1637–1697).²⁵ Breyne discovered specimens of this species in the forests in Kassubia.²⁶

The prototype for the species name *Vicia cassubica* was the nomenclature phrase 'Vicia multiflora cassubica frutescens, siliqua lentis,' contained in the work *Almagestum botanicum*²⁷ by the English botanist Leonard Plukenet (1641–1706). Plukenet, in turn, quoted it after the aforementioned Breyne.²⁸ Therefore, the author of the adjective 'Kassubian' (*cassubicus*) in the above two species names was the naturalist from Gdańsk.

21 C. Linnaeus, *Species plantarum* (1753).

22 K. Mägdefrau, *Historia botaniki, życie i dokonania wielkich badaczy*, transl. by M. Mularczyk, Wrocław 2004 (Prace Ogrodu Botanicznego Uniwersytetu Wrocławskiego, vol. 7, issue 1). For more information on Linnaean binomials before 1753 see: M. Asberg, W. Stearn, *Linnaeus's Öland and Gotland Journey 1741*, "Biological Journal of the Linnean Society" 1973, vol. 5, no. 1, p. 1–107; B. Dayrat, *Celebrating 250 Dynamic Years of Nomenclatural Debates*, [in:] *Systema Naturae 250. The Linnean Ark*, ed. by A. Polaszek, London, New York 2010, p. 189.

23 C. Linnaeus, *Species plantarum* (1753), vol. 1, p. 551.

24 J. Breyne, *Prodromi fasciculi rariorum plantarum primus et secundus, quondam separatim, nunc nova hac editione multum desiderata coniunctim editi, notulisque illustrate* [...], Gedani 1739, p. 28.

25 P. Köhler, *Breyne (Breyne, Breynius) Jakob (Jakub)*, [in:] *Słownik Biograficzny Polskich Botaników*, p. 62–63.

26 J. Breyne, *Prodromi fasciculi*, p. 28.

27 L. Plukenet, *Almagestum botanicum sive Phytographiae Pluc'enetianae onomasticon methodo synthetica digestum*, Londini 1696, p. 387.

28 As indicated by the quote on page 387: 'Breyonii Phytogr. Tab. 72, fig. 2.' This quotation is misleading because Plukenet is not quoting Breyne here, but his own work: *Phytographia sive Stirpium illustriorum*, in which, in fact, on plate 72, figure 2 is a vetch signed: 'Vicia multiflora Cassubica frutescens lentis siliqua Breyne. Prodr. [...]'.

It is worth adding that Breyne maintained scientific contacts with English naturalists and sent them herbarium specimens, including plants from Kassubia.²⁹

The history of the third 'Polish' name of the species included in the first edition of *Species plantarum* – *Trifolium melilotus-polonica* – is much more complicated. Linnaeus described the occurrence of this species as 'in Polonia'.³⁰ In 1776, Peter Simon von Pallas (1741–1811), a German naturalist working for Tsarina Catherine II, conducted a taxonomic revision, among others, of this species described by Linnaeus. He transferred it from the genus *Trifolium* (clover) to the genus *Melilotus* (melilot), giving it the new name *Melilotus polonicus*.³¹ The name *Melilotus polonicus* was used again and independently of the case described above in 1807 by Christiaan Hendrik Persoon (1761–1836), originally from Pomerania and then living in Paris, in his work *Synopsis plantarum*.³² So, from 1807, two different species existed in botany under the same name. It was not until 1891, during a taxonomic revision, that the German botanist and mycologist Carl Ernst Otto Kuntze (1843–1907) transferred the second of these species to the genus *Sertula*, hence its current name *Sertula polonica*.³³

The second edition of *Species plantarum* from 1762 includes another 'Polish' toponym: *Triticum polonicum*.³⁴ Linnaeus drew from two sources for this. The earlier one was the previously mentioned English botanist Leonard Plukenet's *Phytographia*,³⁵ published in London in four parts between 1691 and 1696. It featured brief descriptions and engravings of rare exotic plants. From its third part, Linnaeus quotes only a short phrase: 'Triticum polonicum'. This phrase appears in the caption to Table 231, where Figure 6 depicts the upper part of the blade with a leaf and an ear of this wheat. The caption indicated that a specimen of this grain (or perhaps just an engraving?) was received from the gardener D. Harrison from the garden in Oxford. A later work cited by Linnaeus was *Plantarum Historiae*³⁶ by the Scottish botanist Robert Morison (1620–1683). Following this author, Linnaeus uses the phrase 'Triticum majus, longiore grano, glumis foliaceis, polonicum'. The original wording was slightly different: 'Triticum majus longiore grano glumis foliaceis incluso. Polonice dictum.'³⁷ Both Plukenet and Morison indicate some connection of this wheat species to Poland in their nomenclature phrases but do not provide the sources for this belief. Perhaps at the end of the 17th c., the name for a species of wheat referred to as 'Polish' was used as a trade name. This could be evidenced by the final part of the phrase in Morison's work. Some modern databases state that Linnaeus, having received specimens of this wheat from Galicia, thought it referred to Galicia in Poland, rather

29 K. Pękacka-Falkowska, *Jacob Breyne, jego przyjaciele i rośliny. Uwagi na marginesie Breyne'owskich exsiccatae z kolekcji Jamesa Petivera*, "Kwartalnik Historii Kultury Materialnej" 2022, vol. 70, no. 3, p. 287–331.

30 C. Linnaeus, *Species plantarum* (1753), vol. 2, p. 765.

31 P.S. Pallas, *Reise durch Verschiedene Provinzen des Russischen Reichs [...]*, vol. 3, part 2, St. Petersburg 1776.

32 Ch.H. Persoon, *Synopsis plantarum: seu Enchiridium botanicum, complectens enumerationem systematicam specierum hucusque cognitarum*, vol. 2, Parisii Lutetiorum 1807, p. 348.

33 O. Kuntze, *Revisio generum plantarum: vascularium omnium atque cellularium multarum secundum leges nomenclaturae internationales cum enumeratione plantarum exoticarum in itinere mundi collectarum [...]*. Leipzig 1891, p. 205.

34 C. Linnaeus, *Species plantarum*, 2nd ed., Holmiae 1762, p. 127.

35 L. Plukenet, *Phytographia sive Stirpium illustriorum & minus cognitarum icones tabulis aeneis, summa diligentia elaboratá, pars tertia*, Londini 1692, tab. 231, fig. 6.

36 R. Morison, *Plantarum historiae universalis Oxoniensis pars tertia*, Oxonii 1699.

37 Idem, *Plantarum historiae*, p. 175.

than Spain, and therefore named it accordingly.³⁸ However, in 1762, when the second edition of *Species plantarum* was published, the future Galicia, i.e. the Austrian Partition formed from part of Polish territory, did not yet exist. The name 'Galicia' began to refer to these lands after the First Partition of Poland in 1772, which occurred 10 years after the publication of the second edition of *Species plantarum*. The situation seems unclear because Polish wheat, a plant native to warmer regions, was cultivated in Linnaeus' time in southern Europe, northern Africa, and Asia Minor, and in Poland only sporadically and in small areas, most likely in its southernmost parts now belonging to Ukraine. However, this does not exclude the possibility that the specimens received by Plukenet and Morrison came from these areas.

In 1770, the English botanist Richard Weston (1733–1806) described the blackberry species *Rubus polonicus* in the first volume of *Botanicus universalis et hortulanus*. Unfortunately, he did not provide the source of this name. The description reads: '[*Rubus*] *polonicus*. 28. – non spinosus, polonicus, fructu nigro majore. Black-fruited Poland Bramble, without thorns.'³⁹ Also in the same year, Nicolaus Joseph von Jacquin (1727–1817), the director of the imperial botanical garden in Vienna, published *Hortus botanicus vindobonensis*. It contained a description of the species *Campanula carpatica*⁴⁰ named after its place of occurrence.

In 1798, Jean Emmanuel Gilibert (1741–1814), a French botanist who was a professor of natural history at the Lithuanian Main School in Vilnius in 1781–1783⁴¹, described two species in *Histoire des Plantes d'Europe*, giving them toponymic names: *Cytisus lithuanicus* and *Rubus lithuanicus*.⁴² The German botanist Carl Ludwig Willdenow (1765–1812), working in Berlin, assigned 'Polish' toponymic names to four of the many species he described. For example, in 1799, he named *Juncus sudeticus*,⁴³ and in 1800, he named *Pedicularis sudetica*.⁴⁴

B. 19th century

Botanists, mainly Austrian, German and Hungarian, who explored the Carpathians and Sudetes in the first decades of the 19th c., eagerly assigned toponymic names derived from the names of these two mountain ranges. The abovementioned Carl Ludwig Willdenow gave toponymic names to two subsequent species at the beginning of the 19th c. These were *Salix silesiaca* in 1806,⁴⁵ and *Viola sudetica* in 1814.⁴⁶ The Carpathians became the source of botanical names later than the Sudetes. In 1814, the Swedish physician and botanist Georg (Göran) Wahlenberg (1780–1851) described the species *Gnaphalium*

38 E.g. *Triticum polonicum*. EPPO Global Database, gd.eppo.int/taxon/TRZPO [accessed 6.04.2024].

39 R. Weston, *Botanicus universalis et hortulanus; exhibens descriptiones specierum et varietatum arborum, fructuum, herbarum, florum & fructuum*, vol. 1, Londini 1770, p. 258.

40 N.J. Jacquin, *Hortus botanicus vindobonensis, seu plantarum rariorum quae in horto botanico vindobonens*, vol. 1, Vindobonae 1770, p. 22.

41 P. Köhler, *Gilibert Jean Emmanuel*, [in:] *Słownik Biograficzny Polskich Botaników*, p. 185.

42 J.E. Gilibert, *Histoire des Plantes d'Europe* [...], vol. 1, Lyon 1798, p. 275 and 321.

43 C. Linnaeus, *Species plantarum* [...], ed. by C.L. Willdenow, 4th ed., vol. 2, Berolini 1799, p. 221.

44 Idem, *Species plantarum*, ed. by C.L. Willdenow, 4th ed., vol. 3, Berolini 1800, p. 209.

45 Idem, *Species plantarum*, ed. by C.L. Willdenow, 4th ed., vol. 4, part 2, Berolini 1806, p. 660.

46 C.L. Willdenow, *Enumeratio plantarum horti regii berlinensis: continens descriptiones omnium vegetabilium in horto dicto cultorum: Supplementum*, Berolini 1814, p. 12.

carpaticum found in the Tatra Mountains,⁴⁷ and in 1817 the German botanist Friedrich Gottlieb Dietrich (1765 or 1768–1850) described the fescue species *Festuca carpatica*.⁴⁸ In 1805, the Austrian soldier and naturalist Franz de Paula Adam von Waldstein (1759–1823) and the Hungarian botanist Pál (Paul) Kitaibel (1757–1817) jointly described another species found in the Carpathians: *Betula carpatica*.⁴⁹

In 1809, Willibald Besser (1784–1842), a graduate of the University of Krakow and later an outstanding botanist,⁵⁰ published the flora of Galicia entitled *Primitiae florum Galiciae Austriacae utriusque*.⁵¹ He included descriptions of many new species, four of which are associated with 'Polish' toponymy. The most famous of them is *Betula oycoviensis*.⁵² It was named after the picturesque village of Ojców located in the Ojców Valley, which belonged to Galicia only in the years 1795–1809. The hybrid origin of this species was explained in the mid-20th c. by a botanist from the Institute of Botany of the Polish Academy of Sciences in Krakow, Janina Szaferowa (1895–1983).⁵³ For the species *Galium podlachicum*, Besser did not provide any location of occurrence,⁵⁴ only the habitat: 'in locis herbis humidiusculis', meaning 'in grassy and damp places'. He also did not provide a justification for choosing this name. Perhaps the humid habitats where he found this species reminded him of Podlachia? The name *Gladiolus galiciensis* was derived from 'Galicia'.⁵⁵ Besser notes the occurrence of this species both near Lviv (Lemberg/Lwów) and Krakow – near the villages of Mogiła and Wola. Unable to decide on a specific town, he chose the name of the entire province. The fourth species newly described in the abovementioned work is *Hieracium carpaticum*.⁵⁶ Besser noted its occurrence as 'in montibus carpathicis,' meaning 'in the Carpathians', and derived the name from this mountain range.

The species *Hacquetia epipactis* is noteworthy. The Latin generic name was created by the Swiss botanist Augustin Pyramus de Candolle (1778–1841)⁵⁷ in honor of the physician and naturalist Baltazar (Belsazar) Hacquet (1739 or 1740–1815), who in 1787–1805 was a professor of special natural history at the University of Lviv, and in 1805–1809 a professor at the University of Krakow and director of the Krakow botanical garden in 1808–1809.⁵⁸ The Latin name is not a toponym. However, the toponym is its Polish generic name – *cieszynianka*.⁵⁹ It was proposed only in 1924 by the zoologist Kazimierz Simm (1884–1955),⁶⁰ who was then a professor at the University of Life Sciences in Cieszyn.⁶¹

47 G. Wahlenberg, *Flora Carpatorum principalium* [...], Göttingen 1814, p. 535.

48 F.G. Dietrich, *Nachtrag zum vollständigen Lexicon der Gärtnerei und Botanik* [...], vol. 3, Weimar 1817, p. 333.

49 C. Linnaeus *Species plantarum* [...], 4th ed., ed. by C.L. Willdenow, vol. 4, part 1, Berolini 1805, p. 464.

50 P. Köhler, *Besser Willibald (właśc. Willibald Suibert Joseph Gottlieb)*, [in:] *Słownik Biograficzny Polskich Botaników*, p. 37.

51 W.S.J.G. Besser, *Primitiae florum Galiciae Austriacae utriusque* [...], vol. 1–2, Viennae 1809.

52 Idem, *Primitiae florum Galiciae*, vol. 2, p. 289–291.

53 J. Jentys-Szaferowa, *Badania systematyczno-doświadczalne nad Betula oycoviensis Besser*, "Rocznik Dendrologiczny" 1967, vol. 21, p. 5–56.

54 W.S.J.G. Besser, *Primitiae florum Galiciae*, vol. 1, p. 337.

55 Idem, *Primitiae florum Galiciae*, vol. 1, p. 51–52.

56 Idem, *Primitiae florum Galiciae*, vol. 2, p. 154–155.

57 A.P. de Candolle, *Prodromus systematis naturalis regni vegetabilis* [...], vol. 4, Parisii 1830, p. 85.

58 P. Köhler, *Hacquet Baltazar (Belsazar)*, [in:] *Słownik Biograficzny Polskich Botaników*, p. 219.

59 Z. Mirek, H. Piękoś-Mirkowa, A. Zając, M. Zając, *Vascular Plants of Poland. A Checklist. Krytyczna lista roślin naczyniowych Polski*, bomax.botany.pl/ib-db/check/ [accessed 23.06.2024].

60 K. Simm, *Hacquetia epipactis w okolicy Cieszyna*, "Ochrona Przyrody" 1924, vol. 4, p. 98–100.

61 A. Nowosad, *Simm Kazimierz*, [in:] *Słownik Biograficzny Polskich Botaników*, p. 635.

At least 50 toponyms were created in the first half of the 19th c., all of which concerned flowering plants and bryophytes. Besser created dozens of them, several of which were mentioned above. The few botanists working in Poland at that time described new species and named them using toponyms. Stanisław Batys Górski (1802–1864) was a physician, botanist and entomologist who headed the Vilnius botanical garden in 1829–1832, and until 1840 he was an assistant professor at the Vilnius Medical-Surgical Academy.⁶² In 1830, he described a new species of bluegrass, *Poa lithuanica*,⁶³ which he then, in 1849, transferred to the genus *Glyceria* (manna), and therefore this species received the new name *Glyceria lithuanica*.⁶⁴ Franz (Franciszek) Herbich (1791–1865) was an Austrian military physician and botanist who worked in Galicia from 1825.⁶⁵ He described the new species *Senecio carpaticus*⁶⁶ and *Ranunculus carpaticus*.⁶⁷

Among the toponymic names given at that time, the most interesting appears to be *Lactuca cracoviensis* (Fig. 1). It is the earliest toponym created from the name of a city (Krakow, in Latin: Cracovia). The plant was already known to the ancient Greeks and Romans. The species was described in 1840 by Florian Sawiczewski (1797–1876),⁶⁸ a professor of pharmacy at the Jagiellonian University in Krakow.⁶⁹ It was a very popular vegetable in Krakow at that time⁷⁰ and was cultivated until the beginning of the second half of the 20th c. Its broad, fleshy stems and small leaves were edible and were most often pickled. There is some confusion in the reviewed databases regarding the author of the



Fig.1. Engraving of the plant *Lactuca cracoviensis* (source: F. Sawiczewski, *Wiadomość o Łoczydze w ogólności a w szczególności o łoczydze krakowskiej*, "Rocznik Wydziału lekarskiego w Uniwersytecie Jagiellońskim" 1840, vol. 3, part 2, p. 49–66)

62 P. Köhler, Górski (Gorski) Stanisław Batys, [in:] *Słownik Biograficzny Polskich Botaników*, p. 201–202.

63 E. Eichwald, *Naturhistorische Skizze von Lithauen, Volhynien und Podolien in geognostisch-mineralogischer, botanischer und zoologischer Hinsicht*, Wilna 1830, p. 117.

64 S.B. Gorski, *Icones Potamogetonum, Characearum, Cyperacearum et Graminearum novas vel minus cognitatas species Lithuaniae illustrantes*, Berlin 1849.

65 P. Köhler, Herbich Franz (Franciszek), [in:] *Słownik Biograficzny Polskich Botaników*, p. 230.

66 F. Herbich, *Additamenta ad floram Galliciae, Leopoli, Stanislavoviae et Tarnoviae* 1831, p. 43.

67 Idem, *Selectus plantarum rariorum Galliciae et Bucovinae, Czernovicii* 1836, p. 15.

68 F. Sawiczewski, *Wiadomość o Łoczydze w ogólności a w szczególności o łoczydze krakowskiej*, "Rocznik Wydziału lekarskiego w Uniwersytecie Jagiellońskim" 1840, vol. 3, part 2, p. 49–66.

69 P. Köhler, Sawiczewski Florian, [in:] *Słownik Biograficzny Polskich Botaników*, p. 613.

70 G. Pol, *Głębiki krakowskie*, "Ogrodnik Polski" 1904, vol. 26, no. 17, p. 396–398.

description of this species and its synonymization. Sawiczewski is mentioned as the author of the species in *Vascular Plants of Poland. A Checklist. Krytyczna lista roślin naczyniowych Polski*,⁷¹ as well as in the *Catalogue of Life*.⁷² But *The World Flora Online*⁷³ and *Plants of the World Online*⁷⁴ provide the following name of the species: *Lactuca cracoviensis* Bueck ex Nyman. This record shows that the author of the description was Bueck. Both databases refer to the second volume of the work of the Swedish botanist and curator of the herbarium at the Swedish Museum of Natural History in Stockholm, Carl Frederik Nyman (1820–1893), *Conspectus florae Europaeae* [...],⁷⁵ where on page 435 among the synonyms of *Lactuca saligna* there is also *Lactuca cracoviensis* Bueck. Is it possible for the same name to be used by two different botanists? Of course, especially if they used common terms like *vulgaris* (common) or obvious ones like *oleracea* (vegetable). However, in the case of *Lactuca cracoviensis* it is very unlikely that, by some strange coincidence, two botanists would have independently given the same toponymic name. This issue requires further investigation and is beyond the scope of this study.

In the second half of the 19th c., 117 toponymic names of taxa were created. The largest group consisted of plant species – 60 (including three subspecies and one variety). Slightly fewer were algae: 47 (including 24 species, 17 varieties and 6 forms). Additionally, 8 paleospecies and one species of fungus were described. In the previous period, names were created only after large geographical units, political entities, or historical regions. In 1873, Antoni Rehman (1840–1917), then a private *dozent* at the Jagiellonian University in Krakow and one of the first Polish phytogeographers,⁷⁶ named a discovered species of hawkweed after a small village: *Hieracium pieniakense*.⁷⁷

The first toponymic name for an organism other than a plant was for an alga: *Sphaerogonium polonicum*, created in 1883⁷⁸ by Józef Rostafiński (1850–1928), professor of botany and director of the Botanical Garden of the Jagiellonian University in Krakow.⁷⁹ In the following years, toponymic names for algae were frequently formed. In total, at least 207 such names were created (slightly fewer than for plants) (Fig. 2), along with 12 for fossil algae. From 1889, toponymic names were also given to paleospecies (Fig. 3). The first of these were created by Raciborski, who had just graduated from the Faculty of Philosophy of the Jagiellonian University.⁸⁰ It was *Cedroxylon polonicum*.⁸¹ In total, at least 11 names were created. In the same year, 1889, Franciszek Błoński (1867–1910), who was then a physician at the sugar factory in Spiczynce (present-day Ukraine),⁸² created the

71 Z. Mirek, H. Piękoś-Mirkowa, A. Zając, M. Zając, *Vascular Plants of Poland. A Checklist. Krytyczna lista roślin naczyniowych Polski*, bomax.botany.pl/ib-db/check/ [accessed 23.06.2024].

72 *Catalogue of Life*, www.catalogueoflife.org [accessed 23.06.2024].

73 *WFO The World Flora online*, www.worldfloraonline.org [accessed 23.06.2024].

74 *Kew Royal Botanic Gardes: Plants of the World Online*, powo.science.kew.org/ [accessed 23.06.2024].

75 C.F. Nyman, *Conspectus florae Europaeae* [...], Örebro 1878–1882, p. 435.

76 A. Zemanek, Rehman (Rehmann) Jan Antoni, [in:] *Słownik Biograficzny Polskich Botaników*, p. 572–574.

77 A. Rehman, *Diagnosen der in Galizien und in der Bukowina bisher beobachteten Hieracien*, "Oesterreichische Botanische Zeitschrift" 1873, vol. 23, p. 81–92, 105–113, 146–155, 182–188, 210–219.

78 J. Rostafiński, *Sphaerogonium nowy rodzaj wodorostów sinych. Monografia*, "Rozprawy i Sprawozdania z Posiedzeń Wydziału Matematyczno-Przyrodniczego Akademii Umiejętności" 1883, vol. 10, p. 280–305.

79 A. Zemanek, Rostafiński Józef Tomasz, [in:] *Słownik Biograficzny Polskich Botaników*, p. 588–590.

80 A. Zemanek, Raciborski Marian, [in:] *Słownik Biograficzny Polskich Botaników*, p. 564–566.

81 M. Raciborski, *O niektórych skamieniałych drzewach okolicy Krakowa*, "Sprawozdanie Komisji Fizyograficznej" 1889, vol. 23, p. 170–181.

82 P. Köhler, Błoński Franciszek Ksawery, [in:] *Słownik Biograficzny Polskich Botaników*, p. 48.

oldest toponymic name for a fungus: *Ochroporus lithuanicus*.⁸³

From the beginning of the 20th c. until the outbreak of World War II in 1939, 156 various ranks of taxa with toponymic names were created. The largest group consisted of plant taxa – 84 (including 70 species, 8 subspecies, five varieties, one form). Fewer algal taxa were described – 58 (including 35 species, 17 varieties and 6 forms). Additionally, 12 species of fungi (also one genus and one subfamily), two species of slime molds, and one paleospecies were also described.

Among the taxa described at the time, the fungus *Wawelia regia* probably has the most interesting history. In 1908, specimens of this previously unknown fungus grew on rabbit excrement in a culture maintained in the then-building of the university's Department of Plant Anatomy and Physiology, currently the western guardhouse of the Botanical Garden of the Jagiellonian University. The excrement was provided by a gardener employed at the Botanical Garden, who lived and bred rabbits on Wawel Hill in Krakow, where the royal castle stands. In 1908, using these fungus specimens, Bolesław Namysłowski (1882–1929), then an assistant at the Department of Plant Anatomy and Physiology of the Jagiellonian University,⁸⁴ described a new subfamily, a new genus and a new species named *Wawelia regia* after Wawel.⁸⁵ Over 50 years later, *Wawelia regia* grew again on rabbit excrement in the Botanical Garden of the Jagiellonian University.⁸⁶ Some of these specimens were examined in Switzerland and France in 1959–1961.⁸⁷ Władysław Wojewoda (1932–2010), a mycologist from the Władysław Szafer Institute of Botany of the Polish Academy of

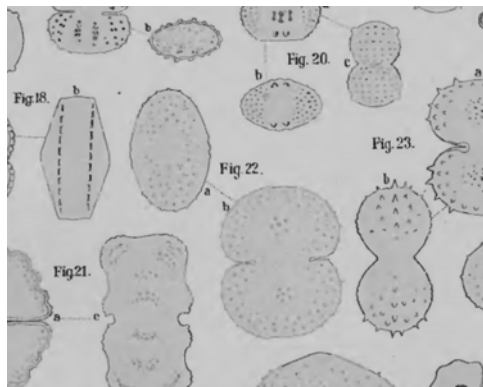


Fig. 2. Engraving of the alga *Cosmarium varsoviense* (source: M. Raciborski, *Nowe desmidyje*, "Pamiętnik Akademii Umiejętności w Krakowie. Wydział Matematyczno-Przyrodniczy" 1890, vol. 17, p. 73–113, tab. 1, fig. 22)

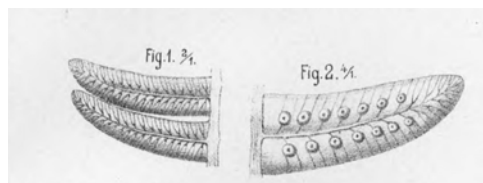


Fig. 3. Engraving of the paleospecies *Laccopteris mirovensis* (source: M. Raciborski, *Flora kopalna ogniotrwałych glinek Krakowskich. Część 1. Rodniowce (Archaeogoniatae)*, "Pamiętnik Akademii Umiejętności w Krakowie. Wydział Matematyczno-Przyrodniczy" 1894, vol. 18, p. 143–243, tab. 13, fig. 1–2)

83 F. Błoński, *Fungi polonici novi*, "Hedwigia" 1889, vol. 28, no. 1–6, p. 280–282.

84 P. Köhler, *Namysłowski Bolesław Jan*, [in:] *Słownik Biograficzny Polskich Botaników*, p. 483–484.

85 B. Namysłowski, *Sur la structure et le développement de Wawelia regia nov. subfam. gen. sp.*, "Bulletin International de l'Académie des Sciences de Cracovie, Classe des Sciences Mathématiques et Naturelles. Anzeiger der Akademie der Wissenschaften in Krakau, Mathematisch-Naturwissenschaftliche Klasse" 1908, no. 7, p. 597–603.

86 B. Gumińska, *Repeated Findings of the Fungus Wawelia regia Namysl. in Cracow*, "Bulletin de L'Académie Polonaise des Sciences, Classe II, Série des Sciences Biologiques" 1957, vol. 5, no. 10, p. 347–348.

87 Summary of previous research on *Wawelia regia* can be found in: F.M. Bortnikov, N.A. Bortnikova, E.A. Antonov, *Wawelia amyloasca, sp. nov.*, – *The Only Species of Wawelia (Xylariaceae) Discovered in the Field*, "Sydowia" 2023, vol. 76, p. 45–61.

Sciences in Krakow,⁸⁸ suggested that this species, which had previously only been found in the Krakow botanical garden, grows in tropical or subtropical regions, and its spores or fragments of mycelium were brought to the university botanical garden along with tropical plants.⁸⁹ In the following years, several other representatives of the *Wawelia* genus were found in Europe. However, the Botanical Garden of the Jagiellonian University remains the only place in the world where the *Wawelia regia* has been found.⁹⁰ The history of *Wawelia regia* was described by Barbara Gumińska,⁹¹ and on the centenary of the Institute of Botany of the Jagiellonian University, it was recalled by Anna Drozdowicz.⁹²

Since the end of World War II to the end of the 20th c., 81 taxa were described. The largest group among them were algae – 35 taxa (24 species, 7 varieties, and four forms), followed by plants – 26 species, as well as 9 taxa of fossil algae, two species of fungi, two paleospecies, and two species of lichens. Over 33% of these were the result of various types of taxonomic revisions, which often involved transferring previously described species to different genera or changing their rank; in such cases, the second part of the binomial name, if it was a toponym, was retained. One example is the the algae species *Cosmarium galiciense*, originally described by Gutwiński as *Closterium incertum* f. *galiciense*; in this case, the form was raised to the status of a separate species. During this period, the sources for 18 toponyms were forms of the name ‘Tatra Mountains’, 16 derived from ‘Poland’, and five from ‘Carpathians’.

Since the beginning of the 21st c., 43 taxa have been described. As before, most of them were algae – 26 taxa (20 species, three varieties, two forms, and one genus) – along with one species of fossil algae, 8 taxa of fungi (including one family, one genus, and 6 species), and only 6 species of plants. Nearly 38% of taxa created recently are the result of taxonomic revisions. In terms of toponymy, ‘Poland’ now dominates, accounting for 21 taxa. Other toponyms were much less frequent, with ‘Silesia’ and ‘Tatras’ each appearing three times.

Final remarks

The practice of creating toponyms – mainly specific adjectives – in scientific Latin plant names based on the broad Polish toponymy has been ongoing, with varying intensity, since the beginning of modern binomial plant nomenclature, that is, since the publication of *Species plantarum* by Carl Linnaeus in 1753. The oldest specific adjectives of this type were created by Linnaeus himself, using earlier nomenclature phrases whose roots date back to the 17th c. or even much earlier. Over the last 270 years, a characteristic sequence of the emergence of such names containing specific adjectives that are toponyms has been observed (Fig. 4). First, until 1883, they were given only to plants, and from that year on to algae. At least 212 scientific Latin names of plant taxa containing toponymic

88 P. Köhler, *Wojewoda Władysław*, [in:] *Słownik Biograficzny Polskich Botaników*, p. 802–803.

89 W. Wojewoda, *Problem pochodzenia grzyba Wawelia regia Namysłowski*, “Wiadomości Botaniczne” 1983, vol. 27, no. 4, p. 249–252.

90 F.M. Bortnikov, N.A. Bortnikova, E.A. Antonov, *Wawelia amyloasca*, *sp. nov.*, p. 45–61.

91 B. Gumińska, *Wawelia – historia i nowe odkrycia*. *Wawelia – The History and a Current News*, “Wiadomości Botaniczne” 2000, vol. 44, no. 3–4, p. 23–25.

92 A. Drozdowicz, *O małym grzybie z królewską nazwą*, “Alma Mater – miesięcznik Uniwersytetu Jagiellońskiego” 2013, special issue no. 158, p. 146.

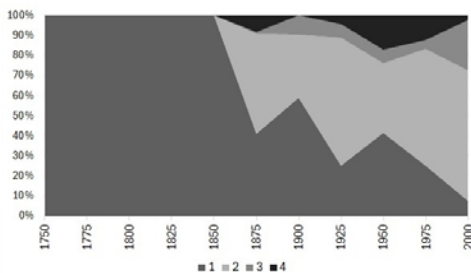


Fig. 4. Use of the four most common toponymic names in the period 1753–2022 for individual groups of organisms: 1 – plants, 2 – algae, 3 – fungi (including lichens and slime molds), 4 – paleospecies

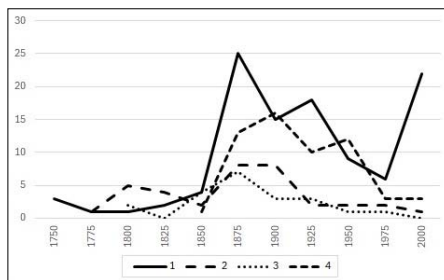


Fig. 5. The four most frequently used toponyms in the period 1753–2022: 1 – Poland, 2 – Carpathians, 3 – Podolia, 4 – Tatra Mountains

adjectives were created. So far, 29 such names have been created for fungal organisms: 25 for fungi, two for slime molds and two for lichens.

The sequence of individual groups of organisms described above is related to the development of botany, mainly plant systematics. Initially, botanists working in Poland (or Polish lands) focused their interest on vascular plants, as these organisms are large, relatively easy to identify (compared to other groups), and occur in large numbers, often creating extensive plant formations dominating the landscape. Other groups of organisms are more difficult to identify, requiring specialized equipment (such as loupes and microscopes) and access to appropriate comparative literature.

Individual toponyms were not used equally often as sources for the names of plants, fungi or algae. Initially, before the principles and aims of phytogeography were formulated by Alexander von Humboldt (1769–1859) at the beginning of the 19th c.,⁹³ names of countries or larger regions were more commonly chosen. Later, as the floristic diversity of individual countries and broader areas became better known, botanists more willingly created toponyms from smaller and smaller geographic units, such as the names of villages, individual mountain peaks, or small rivers.

Initially, until the mid-19th c., the Latin names of plants occurring in Poland followed the sequence of events described above. However, in the second half of the 19th c. and in the period leading up to the outbreak of World War II, names of plants and other organisms were significantly more often created based on the toponym ‘Poland’ (Fig. 5). It can be assumed that this was the result of the political situation at that time; during the Partition period, botanists sought to express their patriotism in this symbolic way, to mark the existence of Poland – at least within the realm of botanical nomenclature – as the country itself did not appear on the maps of the time (until 1918).⁹⁴ In doing so, they participated in a broader phenomenon characteristic of the Polish intellectual elites of the era: a deep love for the homeland. Polish patriotism in science during this period was expressed in various ways. A few examples are given below. Patriotic ideals, for instance,

93 A. von Humboldt, A. Bonpland, *Ideen zu einer Geographie der Pflanzen* [...], Tübingen, Paris 1807; K. Mägdefrau, *Historia botaniki, życie i dokonania wielkich badaczy*.

94 For more on this topic see: U. Ostrowska, *Koncepcje wartości patriotyzmu na tle historycznym*, “Filozofia edukacji. Rozprawy” 2019, vol. 1, no. 1, p. 33–56.

were the foundation for the establishment of the Physiographic Commission in 1865, whose activities aimed to contribute to the advancement of the Polish lands under Austrian rule. The Commission's journal, "Sprawozdanie Komisji Fizjograficznej" ("Reports of the Physiographic Commission"), was intended to publish articles in Polish, thereby helping to enrich the native language with newly created biological terminology.⁹⁵ Another example, unrelated to toponymy, is the scientific naming of new taxa of parasitic fungi discovered in Java by Marian Raciborski. When describing the new taxa, Raciborski gave them names in honoring characters from the poetry of Adam Mickiewicz and Juliusz Słowacki (Polish Romantic poets), such as *Alina*, *Balladyna*, *Gerwasia*, *Goplana*.⁹⁶

In the interwar period, scientists wanted to emphasize the existence of Poland in various ways. One method, on the international scientific stage, was the more frequent use of the toponym 'Poland' in scientific botanical names. Another was organizing an expedition to the Arctic as part of the 2nd International Polar Year (1932–1933).⁹⁷

A significant number of taxon names derived from the 'Tatra' toponym were probably influenced by natural conditions; the mountains formed a large mosaic of various habitats, which resulted in a large taxonomic diversity of plants and other organisms. This significant number of created names could also result from the fascination with mountains that evoked positive emotions in naturalists, which could translate into the frequency of using the name of these mountains when creating the names of taxa.

The considerations presented above apply only to a small part of the botanical nomenclature, the names of taxa derived from a selected group of names of geographical units. This nomenclature is conservative by definition. Therefore, it turned out to be a convenient material for historical analyses. These analyses revealed the trends in the nomenclature of Polish taxa over the last 270 years.

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„Polskie” taksony – przyczynek do dziejów nomenklatury botanicznej

Naukowe łacińskie nazwy roślin, grzybów i glonów mają różne pochodzenie. Tematem niniejszej pracy są toponimy związane z geografą Polski czy szeroko rozumianych ziem polskich. Przeszukano w Internecie kilka baz danych roślin, grzybów i glonów. W ten sposób uzyskano zbiór 503 nazw taksonów tych organizmów zawierający 68 różnych toponimów. Najwięcej z nich zostało utworzonych na podstawie formy *Polska* – 125, następnie *Tatry* – 74 i *Karpaty* – 40. Najstarsze z „polskich” toponimów znalazły się już w pierwszym wydaniu *Species plantarum* Karola Linneusza (1753). Były to *Ranunculus cassubicus*, *Trifolium melilotus-polonica* i *Vicia cassubica*. A w drugim wydaniu – dodatkowo *Triticum polonicum*. Toponimy te korzeniami sięgają czasów przedlinneuszowskich. W ciągu minionych 270 lat można dostrzec charakterystyczną sekwencję w tworzeniu takich nazw. Najpierw, aż do 1883, nadawane były tylko roślinom i od 1802 mszakom. Utworzono co najmniej 246 toponimicznych nazw roślin (w tym 34 nazw mszaków). Następnie glonom – utworzono 207 nazw oraz 12 dla glonów kopalnych. A w końcu grzybom (włączając porosty i śluzowce) – od 1889 utworzono 29, a dla paleogatunków – 11. W drugiej połowie XIX w. i w okresie do wybuchu II wojny światowej nazwy roślin i innych organizmów były znacząco częściej tworzone na podstawie toponimu *Polska*. Można przypuszczać, że był to efekt ówczesnej sytuacji politycznej: gdy Polski nie było na mapach, botanicy chcieli w ten sposób zmanifestować swój patriotyzm, a następnie radość z odzyskania niepodległości. Analiza historyczna toponimów ujawniła pozanaukowe czynniki, którym toponimia podlegała w ciągu ostatnich prawie 270 lat.