

Editorial: from printed past to digital future

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Introduction

The 107 years of Preslia have yielded 93 printed volumes. Now, after more than a century, an important change is coming – starting with issue 1 of volume 94 (2022), Preslia will be published in the Gold Open Access model. The papers will no longer be released in a printed issue but published electronically as PDF files, freely available for download at the journal's website, www.preslia.cz. The decision made by the journal's owner and publisher, the Czech Botanical Society, was based on the vote among Preslia subscribers and reflects current publication trends and the economic situation.

We want to use this opportunity to look back at Preslia's history, highlight the trends in scope, and provide some summary statistics. Interested readers can find a more detailed account of Preslia history in the Editorial published on the occasion of the journal's 100th anniversary (Pyšek et al. 2014).

Beginnings, milestones and focus

The discrepancy between the number of volumes and the time since the journal started to be released reflects gaps in publishing in the early days of Preslia. Two years after the establishment of the Czech Botanical Society in 1912 the first volume of its yearbook Preslia was published. Preslia was named in honour of the Presl brothers, Jan Svatopluk and Karel Bořivoj, famous 19th-century Czech botanists. It took another eight years, a long break due to WWI, before the second volume of Preslia appeared in 1922, followed by further volumes at more regular intervals. During WWII, even though the Nazi authorities restricted meetings and other activities of natural history societies, the Czech Botanical Society managed to issue three volumes of Preslia, one of them containing Rohlena's monumental work *Conspectus Florae Montenegrinae* (Rohlena 1942) as a 500-page double-volume. The Society resumed publishing Preslia as a yearbook in 1948, and three years later, in 1951, the publishing of the journal was taken over by a state-owned publishing house. Since this move, the journal has been published quarterly, which continues up to now (Pyšek et al. 2014, Danihelka et al. 2017). In 1992, the publishing of Preslia returned to the Czech Botanical Society.

A significant change in the journal's profile and enhancement of its international status came in 2003 when *Preslia* was accepted for listing on the Web of Science. The first impact factor (1.545) was received in 2005, followed by a gradual increase until 2014. Since 2009 the impact factor of *Preslia* never dropped below 2.5 and exceeded 4.0 in three years (2014, 2019, and 2020). *Preslia* now enters the digital era with an impact factor of 4.167 (Fig. 1), maintaining its place among leading European journals focused on field botany. Currently, as of 6 January 2022, five papers have the status of "highly cited" (Danihelka et al. 2012, Grulich 2012, Pyšek et al. 2012, 2017, and Komárek et al. 2014, the most cited one with over 440 citations).

Preslia publishes original research papers on plant systematics, phytogeography, ecology, vegetation science, and Quaternary palaeobotany of vascular and non-vascular plants. Since 2004 the journal has been geographically focused on central Europe; *Preslia* only publishes papers that refer to this territory (with the exception of special issues). The geographical scope roughly corresponds to that of *The World Factbook* (2009), *Encyclopaedia Britannica*, and *Brockhaus Enzyklopädie* (see http://en.wikipedia.org/wiki/Central_Europe), including the Czech Republic, Austria, Germany, Hungary, Liechtenstein, Poland, Slovakia, Slovenia and Switzerland, and occasionally also neighbouring countries or their parts, such as non-Mediterranean Croatia, Romanian Transylvania, Serbia and the Carpathian part of Ukraine.

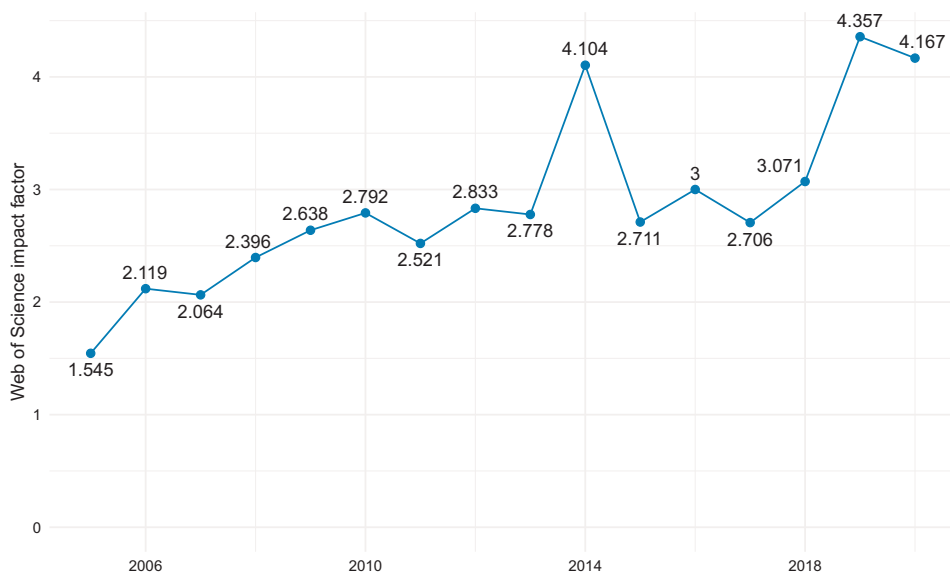


Fig. 1. Development of *Preslia* impact factor since the admission of the journal on the Web of Science. The journal was accepted in 2003 and received its first impact factor in 2005.

The last ten years

Since the works of national importance have been highlighted in the 100-anniversary Editorial eight years ago (Pyšek et al. 2014), *Preslia* has continued to publish many such works. One effort that needs to be emphasized is the outputs associated with the Pladias

project synthesizing the knowledge about Czech flora and vegetation (Wild et al. 2019, Chytrý et al. 2021). Between 2015 and 2021, Preslia published 10 papers containing distribution maps for 907 taxa of the Czech flora, based on verified, taxonomically revisited, and updated data (Kaplan et al. 2015, 2016a, b, 2017a, b, 2018a, b, 2019, 2020, 2021). These publications represent a crucial achievement in terms of the quality of information available to the botanical public (www.pladias.cz), and the series will continue.

Some comprehensive summary works referring to the Czech Republic or central Europe were published in the last decade. These include, to name a few, the elaboration of the Ellenberg-type indicator values for the Czech flora (Chytrý et al. 2018), development of an index categorizing Czech plant taxa according to their ecological specialization (Zelený & Chytrý 2019), a compilation of genome size values for the Czech vascular flora (Šmarda et al. 2019), a newly developed classification of plant dispersal strategies (Sádlo et al. 2018), a database of the participation of plant species in succession (Prach et al. 2017), landscape classification of the Czech Republic based on the distribution of natural habitats (Divíšek et al. 2014), pollen-based reconstruction of Holocene vegetation (Abraham et al. 2016), and an overview of endemic vascular plants in Slovakia (Kliment et al. 2016).

Some strong lines of research continued, representing topics that have been established as pillars of Preslia content. One of them is vegetation science. Papers published on the structure, composition, and ecology of plant communities across broad geographical scales yielded updated vegetation classification, based on modern methodologies, of forests (Novák et al. 2020, Zukal et al. 2020, Hegedúšová et al. 2021), grasslands (Lengyel et al. 2016, Willner et al. 2019), and calcium-rich fens (Hájek et al. 2021). Some papers dealt in detail with extraordinary botanical localities in the Czech Republic and beyond (Chytrý et al. 2015, Fajmonová et al. 2020, Roleček et al. 2020).

Another frequently encountered topic in Preslia, plant invasions, was represented by the first comprehensive account of the global naturalized alien flora based on the distribution of over 13,000 species (Pyšek et al. 2017), new insights into the issue of archaeophytes in the Czech Republic (Pokorná et al. 2018), and a comparison of impacts of invasive and native dominants (Hejda et al. 2021). Several papers on various aspects of plant invasions have also been published, including contributions on the ecology of major invasive species in central Europe (e.g. Skálová et al. 2017, Pinke et al. 2019, Pyšek et al. 2019, Vojík et al. 2020, Čuda et al. 2021, Filep et al. 2021).

In terms of taxonomy, Preslia has continued to publish studies of genera with specific biological mechanisms such as agamospermy. Taxonomic revisions of critical groups such as *Rubus* (Király et al. 2017, 2019, Trávníček et al. 2018, 2021), *Taraxacum* (Kirschner et al. 2019, 2021) and *Sorbus* (Lepší et al. 2015, Feulner et al. 2017) are particularly noteworthy. However, multidisciplinary studies show that plant diversity is sometimes poorly known also in sexual groups, and neglected species may be found even in the relatively well-explored central Europe (Kolář et al. 2015, Lepší et al. 2019). The diversity of many groups is amplified by hybridization and polyploidy, which are also frequent topics of the journal's portfolio (e.g. Prančl et al. 2018, Zalewska-Gałosz et al. 2018, Popelka et al. 2019, Doležal et al. 2020, Pišová & Fér 2020, Takács et al. 2020, Urfus et al. 2020). Although the majority of Preslia's papers deal with vascular plants, studies on diversity, taxonomy, and phylogeny of algae (e.g. Procházková et al. 2015, Mühlsteinová et al. 2018), lichens (e.g. Krzewicka et al. 2020) and mosses (e.g. Mikulášková et al. 2017, Manukjanová et al. 2020) are also occasionally published.

The last hundred years

Over the entire Preslia history, the journal has published 2053 papers (this number includes not only scientific papers but also articles of various formats such as reports, society news, obituaries, and alike that were often included in the early years), covering 27,616 pages. Let us have a detailed look at what is behind these numbers and what can be inferred about the journal’s focus, its authors, and trends in publication structure.

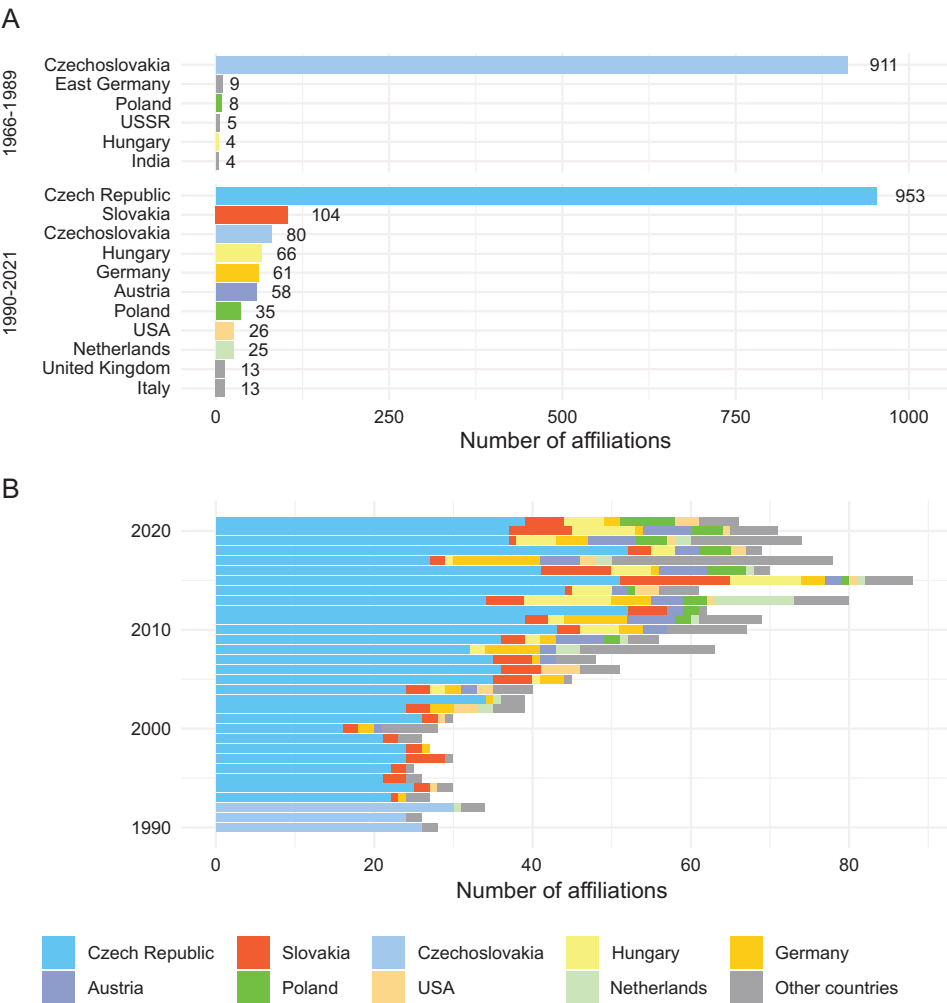


Fig. 2. (A) The most represented countries among Preslia authors shown for the two periods, before and after the fall of communist regime in Czechoslovakia in 1989. Note that the data refer to the number of affiliations assigned to individual countries, not the numbers of distinct authors. The recent period reflects the split of Czechoslovakia on 1 January 1993, after which the authors from Slovakia are considered as from abroad. Only countries with more than two and 10 affiliations are shown for the upper and lower part of the graph, respectively. (B) Year-by-year trends in affiliations by countries for the latter period, 1989–2021.

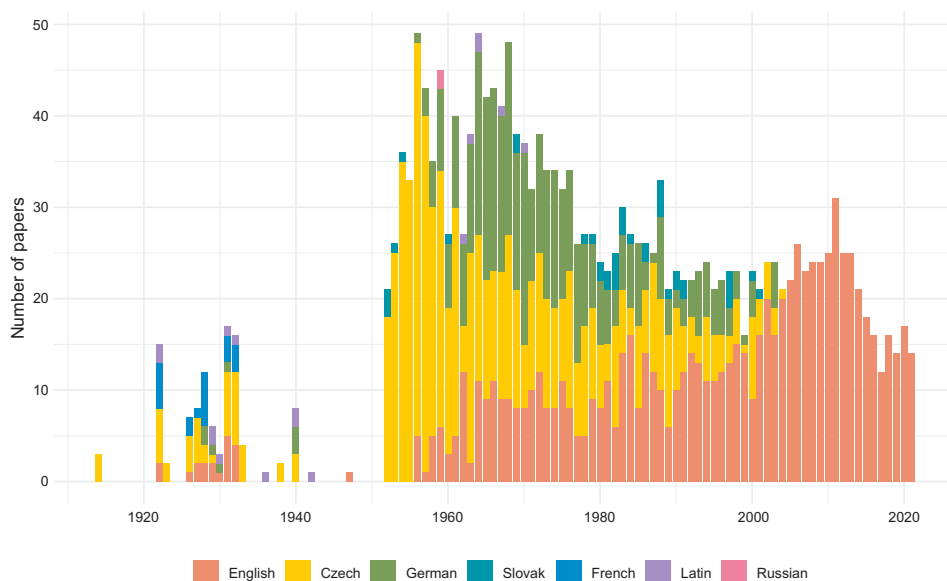
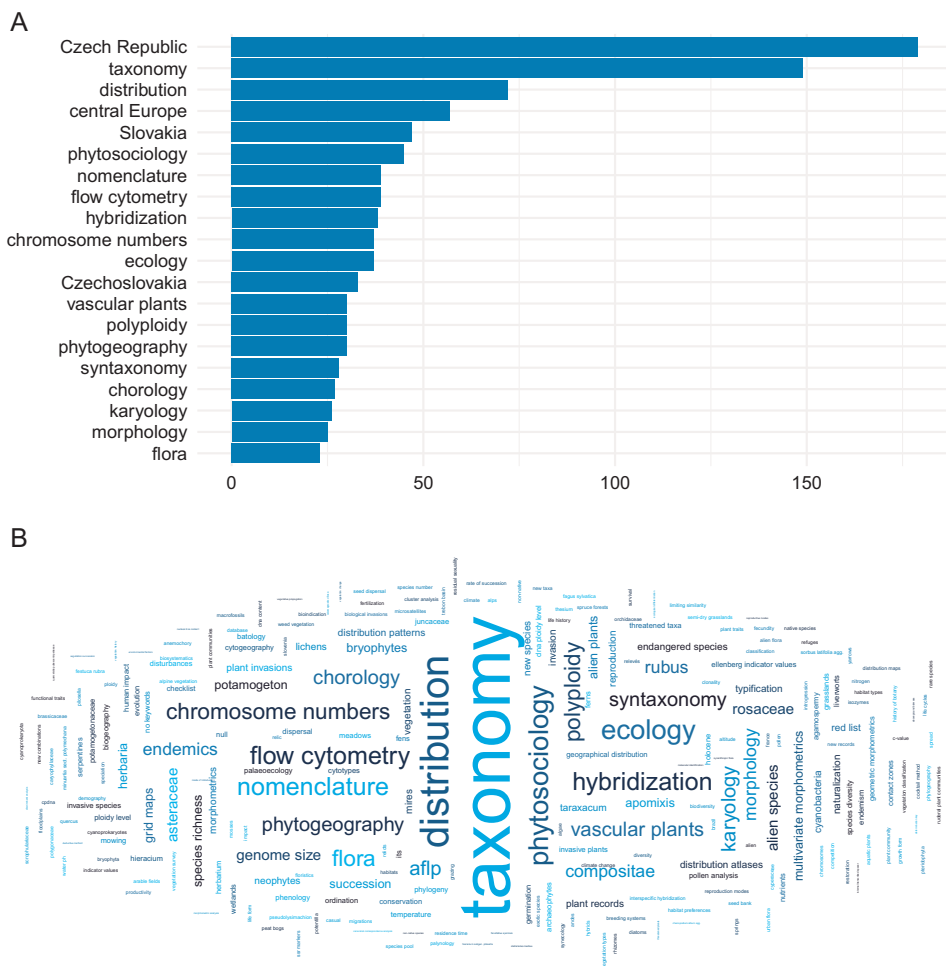


Fig. 3. Trends in the representation of languages used in Preslia papers.

The papers were written by 1386 different authors. The two most prolific authors in Preslia history were Josef Holub, who served as an Editor-in-Chief in 1990–1999 (56 papers between 1952–2000; see Pyšek & Hrouda 2000) and Radovan Hendrych (54 papers in 1953–2003). Other authors that shaped the Preslia profile in the past were taxonomist Jindřich Chrtěk sen., with 45 papers authored in 1956–2001, vegetation scientist Karel Kopecký, who published 41 papers between 1957–1991, and algologist Bohuslav Fott, with 39 papers in 1952–1981. Contemporary authors with the highest numbers of articles include Petr Pyšek (46 in 1988–2021), Zdeněk Kaplan (41 in 1994–2021), František Krahulec (39 in 1980–2021), Milan Chytrý (35 in 1991–2021) and Jan Kirschner (30 papers in 1979–2021).

The structure of Preslia's authorship had experienced significant change after the fall of the Iron Curtain in 1989 when the former Czechoslovakia opened to the world. Until then, the vast majority of the author's affiliations were from Czechoslovakia (911 out of 959, i.e. 95% for the period of 1966–1988, see Fig. 2), with other countries only rarely represented and almost exclusively from then socialist bloc. After 1989, the percentage of papers authored by national authors (i.e. from Czechoslovakia until 1992 when the country split, later on from the Czech Republic) dropped to 66% of all affiliations for the 1990–2021 period. Authors from abroad are much more represented now, including Slovakia with 104 affiliations, Hungary (66), Germany (61), Austria (58), and Poland (35). The core of authors still come from neighbouring countries, reflecting the change in geographical focus of the research topics that became restricted to central Europe. Figure 2B, providing detailed insights into the internalization of Preslia in the last 20 years, indicates another trend, an increasing representation of multiauthor papers, reflected by the gradually increasing number of affiliations by countries in recent years. In total, since 1966, when the way how affiliations are presented in articles has been standardized, the authors included scientists from 57 countries of the world.



Linked to authorship is partly the language structure of papers published in *Preslia* (Fig. 3). Before 2003, when the journal was admitted to the Web of Science and English became the only publication language, Czech, English, and German were quite proportionally represented. The seeming decrease in the use of these languages from the 1960s to 1980s is due to decreasing number of papers published per year, reflecting the publication of longer papers (note that until 1989, each volume mandatorily consisted of 384 pages, divided to 96 per issue).

The topics addressed in Preslia papers can be inferred from the analysis of keywords (Fig. 4A). The results reflect the traditional topics that were always in the focus of Preslia (taxonomy, nomenclature, phytogeography, phytosociology and syntaxonomy, ecology), but also areas, including methodical approaches, in which the Czech botany has a strong

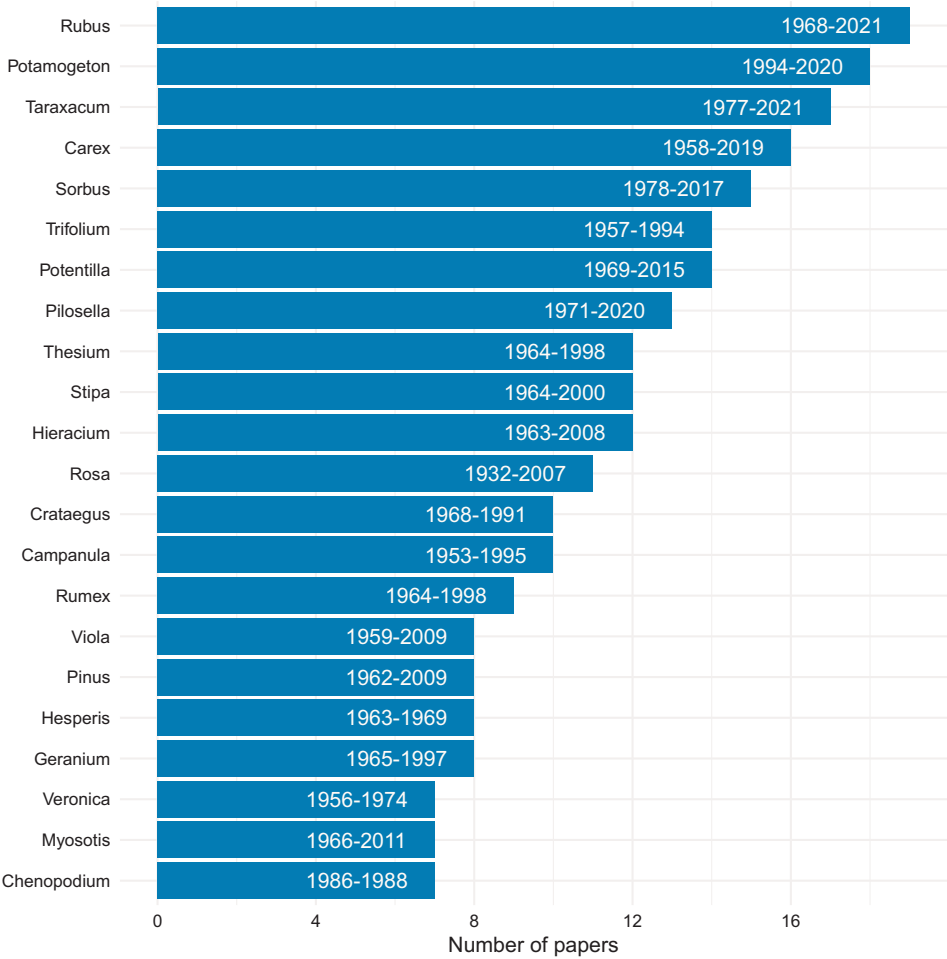


Fig. 5. Frequency of genera subject to detailed studies (as reflected by the genus scientific name included in the title). Time span over which the genus appears is indicated.

position (flow cytometry, karyology, hybridization). The high representation of geographically specific keywords indicates that a substantial part of field research has been conducted in the Czech Republic, Slovakia, and other central-European countries. The relative importance of non-geographic topics is displayed on a keyword-based word cloud in greater detail (Fig. 4B).

In terms of taxonomic focus, some genera have remained a subject of interest over almost the whole history of Preslia – for example, 11 papers on *Rosa* appeared between 1932 and 2007. The genera that were most often subjects of detailed studies include *Rubus* (19 papers), *Potamogeton* (18), *Taraxacum* (17), *Carex* (16), and *Sorbus* (15). In total, 14 genera were studied at least 10 times (Fig. 5). *Ambrosia artemisiifolia* (subject of five papers in 2009–2019), *Phragmites australis* (five papers in 1970–2021), as well as

Arabis hirsuta (1962–1972), *Heracleum mantegazzianum* (1995–2018), *Pisum sativum* (1954–1962) and *Rumex acetosa* (1962–1972) with four papers each, were the most often studied species. Overall, the paper titles refer to 668 scientific names of the species and taxa at the infraspecific level (vascular plants 553, bryophytes 47, algae 32, fungi 21 and lichens 14), indicating a great variety of taxa whose taxonomy, biology, distribution, or ecology was studied in detail.

The future

With the transition to the new publication model, Preslia launches new web pages at www.preslia.cz. The site includes a complete digitized archive of papers since the launch of the journal in 1914, with full-text search by title and authors, and from 1988 also for abstracts and keywords. This represents a wealth of botanical information from the central-European region and allows to draw interesting inferences on the history of its flora and vegetation. The story will continue, now with information being freely available – we trust this opens a new era in Preslia's history.

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