Czech Quaternary Palynological Database – PALYCZ: review and basic statistics of the data

Česká kvartérní pylová databáze – PALYCZ: přehled a základní statistika

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This paper reviews the data on quaternary palynological sequences collected in the Czech Republic, attempts to store them in the Czech Quaternary Palynological Database (PALYCZ) and outlines a possible use for regional syntheses. Work on pollen stratigraphies done over the last hundred years has yielded a very large amount of data for this region. These data can be used globally for various types of environmental reconstructions and are of local importance, especially when combined with local databases. For data to be included in PALYCZ it has to meet certain criteria, the determination of the pollen of herbaceous plants must be well resolved and radiocarbon dated. As of 31 December 2008, we had reviewed 177 pollen profiles. Data from 152 sequences are already stored in PostgreSQL® in relational tables, which allow a broad range of queries to be addressed using the html protocol. The data collected since 1959 by 15 authors contain raw pollen counts together with ^{14}C dates and various metadata on locality. All the pollen samples were ordered using non-metric multidimensional scaling. Display of the ordination diagram incorporating the appropriate millennial time slices revealed a common pattern in all data. The quality of data is also discussed in the context of the history of the research and methods used. Database access can be found at http://botany.natur.cuni.cz/palycz.

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K e y w o r d s : data archive, Czech Republic, Holocene, multivariate analysis, pollen analysis, Pleistocene

Introduction

Research on pollen stratigraphies had quite a long tradition in the former Czechoslovakia. The adoption of a more rigorous determination of time and taxonomy in pollen analysis resulted in the data being frequently used for reconstructing changes in the postglacial environment. Recently, more scientists addressing specific questions have requested comparisons of pollen analytical data from several stratigraphies (Pokorný 2002b, Pokorný 2004, Kuneš et al. 2008).

At a continental scale, information on past vegetation has been used to answer questions about past climate change (Davis et al. 2003), the spread and distribution of woody species (e.g., Magri 2008) and potential future conservation of the environment (Anderson et al. 2006). Many studies could benefit from the European Pollen Database (EPD), where around 40 datapoints from the Czech Republic are already archived. These datapoints originated mainly from pollen sequences published in the 1970s and 1980s and some of them are core localities with well-established chronologies (e.g., Jankovská 1987, Rybníčková & Rybníček 1988a). However, during the last 15 years, Czech palynologists have analyzed and dated many new pollen sequences of high importance. Some of these sequences were published in international journals and therefore are well-known and readily available to authors (Pokorný 2002a, Svobodová et al. 2002, Pokorný et al. 2006, Rybníčková & Rybníček 2006). Others are, unfortunately, published in local journals and sometimes in local languages (Jankovská 1998, Svobodová 2004); others remain unpublished (Appendix 1).

Although global questions require integrated datasets, the existence of local and regional databases has advantages: database managers can benefit from their familiarity with the area of the Czech Republic; they know most of the researchers personally, the historical background and taxonomic concepts utilized by individual researchers. This automatically results in a high-level of accuracy of the data, which can be immediately checked, and database managers can easily track current research and encourage authors to submit their data, with communication occuring at a personal level.

Electronic databases enhance knowledge by providing large collections of information, which can be used in wider syntheses of data. In the region of Central Europe, there are several examples, ALPADABA (Bern), Polish Pollen Database (Ralska-Jasiewiczowa et al. 2004) and the Czech National Phytosociological Database (Chytrý & Rafajová 2003).

This encouraged us to compile a computer-based database of pollen stratigraphical data, which will provide: (i) an archive of raw data (pollen counts) and metadata; (ii) statistics for regional syntheses; (iii) support for the EPD; and (iv) a possible link with other local databases (archaeological database, modern pollen database, archaeobotanical database of plant macrofossils, phytosociological database), all of which would be a great contribution to future research (Fig. 1).

The aim of this paper is to review data from the Czech Quaternary Palynological Database (PALYCZ), which consists of pollen sequences analysed during the last 50 years in the Czech Republic, and indicate the basic statistical outputs and possibilities for further analyses. In addition, data analysed by Czech and Polish palynologists in Slovakia and a few sites near the border in Germany are also included into PALYCZ. Many researchers will benefit from this data in the future.

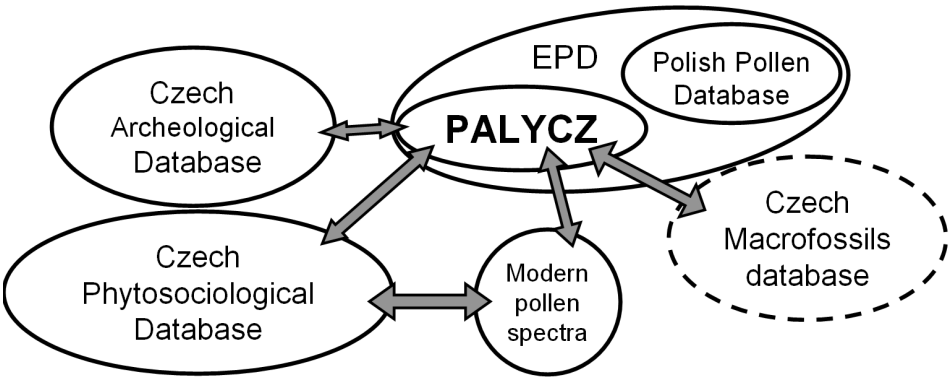

Fig. 1. – Schematic diagram of possible interactions between PALYCZ and other databases or datasets. Dashed indicates in progress.

PALYCZ from a historical perspective

Collecting data from palynological sequences had a long tradition in the former Czechoslovakia. Although the first investigation analysing an inventory of peat-bogs and a few macrofossils was published by František Ladislav Sitenský (1885, 1886, 1891), the real beginning of quaternary palynology is connected with Karl Rudolph (born 11. 4. 1881 in Teplice), who worked at the German University in Prague. He was inspired by attending the "IV. Internationale Pflanzengeographische Exkursion" in 1916 in Scandinavia, where he explored northern-European vegetation and met L. von Post, the leading pollen analyst at that time. Investigations first led K. Rudolph to the Třeboň Basin (S Bohemia) and the first publications of data for Široké blato, Příbraz and Mirochov (Rudolph 1917). Franz Firbas, Rudolph's first co-worker, focused on the Ploučnice region (Polzengebiet) in N Bohemia (Firbas 1927; see Fig. 2), where he analysed 25 sites. His students and colleagues continued research in the Jizerské hory Mts (Plail 1927), Cheb Basin (Funeck 1931) and Orlické hory Mts (Müller 1929) so intensively that by 1929 Rudolph could publish a review article summarizing these results (Rudolph 1929). Researchers from Rudolph's school also collected data outside the borders of Czechoslovakia – in the Pannonian Basin (Kinzler 1936), N Tatra Mts (Peterschilka 1927) and other areas (see Firbas 1949, 1952). The palynological workgroup educated many good students. Nevertheless, the outbreak of World War II inhibited further expansion of the group. Some of the students were killed (like Karl Preis; 1941 in Russia), while others were expelled from Czechoslovakia in 1945. Franz Firbas re-established his group at the University in Göttingen. In 1988, Hans Schmeidl, the last student of K. Rudolph, was still lecturing on vegetation history in Munich. After World War II, Hubert Losert (who worked at Komořanské lezero lake and in the Elbe Basin) and Hugo Salaschek (who worked on Moravo-Silesian peat-bogs) did not return to palynology but both became secondary school teachers. However, they analysed and published an outstanding number of profiles, which are still a great inspiration for modern palaeoecology (Fig. 2).

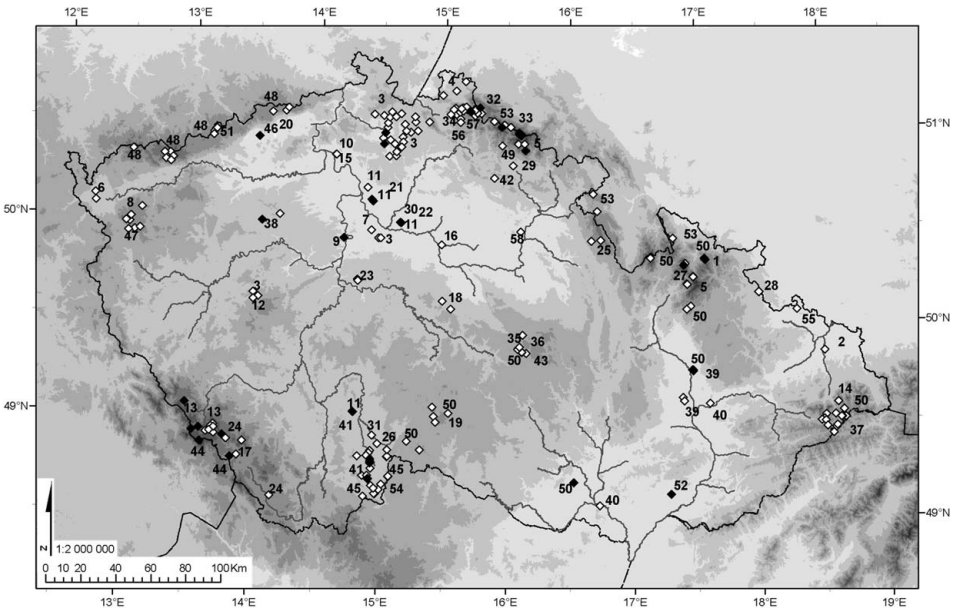

Fig. 2. – Map of palynological profiles not meeting the required standard of data quality. Black points indicate sites for which the results were included in the database only after the sites were revisited. References to numbers: 1 – Fahl 1926; 2 – Fejfar et al. 1955; 3 – Firbas 1927; 4 – Firbas 1929; 5 – Firbas & Losert 1949; 6 – Funeck 1931; 7 – Gough 1992; 8 – Granzner 1936; 9 – M. Kaplan, unpublished; 10 – Kern 1939–1940; 11 – Klečka 1926a; 12 – Klečka 1926b; 13 – Klečka 1928; 14 – Kneblová-Vodičková 1966a; 15 – Kneblová 1956a; 16 – Kozáková & Kaplan 2006; 17 – Kral 1979; 18 – Kriesl 1959; 19 – Križo 1958; 20 – Losert 1940a; 21 – Losert 1940b; 22 – Losert 1940c; 23 – Mráz & Pacltová 1956; 24 – Müller 1927; 25 – Müller 1929; 26 – Němejc & Pacltová 1956; 27 – Opravil 1959; 28 – Opravil 1962; 29 – Pacltová 1957; 30 – Pacltová & Hubená 1994; 31 – Pacltová & Špinar 1958; 32 – Plail 1927; 33 – Puchmajerová 1929; 34 – Puchmajerová 1936; 35 – Puchmajerová 1943; 36 – Puchmajerová 1944; 37 – Puchmajerová 1945; 38 – Puchmajerová 1947a; 39 – Puchmajerová 1947b; 40 – Puchmajerová 1950; 41 – Puchmajerová & Jankovská 1978; 42 – Purkyně & Rudolph 1925; 43 – Purkyně & Rudolph 1927, 44 – K. Rudolph, unpublished; 45 – Rudolph 1917; 46 – Rudolph 1926; 47 – Rudolph 1931; 48 – Rudolph & Firbas 1924; 49 – Rudolph & Firbas 1927; 50 – Salaschek 1936; 51 – Schmeidl 1940; 52 – Sládková-Hynková 1974; 53 – Stark & Overbeck 1929; 54 – Štěpánová 1930; 55 – Vodičková 1981; 56 – Wünsch 1935; 57 – Wünsch 1939; 58 – Žebera 1957.

To this generation of German palynologists we can also add a few scientists that worked at the Czech Agricultural University (Klečka 1926a, b) and the Czech part of Charles University (Puchmajerová 1929, Štěpánová 1930). The last-mentioned author was active until 1950. Pacltová (1957), Kriesl (1959) and Križo (1958) studied pollen analyses relevant to forestry, while Kneblová (1956) focused on geological questions. Opravil (1959) began with palynological studies in Keprník-Jeseníky, but later switched to archaeobotanical macrofossil analyses.

A comprehensive overview of all the data from this early period of research in the Czech Republic is illustrated in Fig. 2. Even though much of the primary data from this period are available in publications they are not included in the PALYCZ for reasons described below.

The modern palynological approach, which uses the determination of herb palynomorphs and ^{14}C dating, was founded at the Institute of Botany of the Academy of Sciences in Brno by E. Rybníčková. Since the 1960s, several palynologists have gone through this institute (M. Peichlová, A. Konětopský, H. Sládková-Hynková, H. Hüttemann and many others), including V. Jankovská (still active there) and H. Svobodová-Svitavská, who entered in the 1980s and subsequently moved to the Institute of Botany at Průhonice. Associated were quaternary palynologists among the geologists in Prague, namely V. Kneblová-Vodičková and E. Břízová, who is currently working at the Czech Geological Survey in Prague. During the 1970s and early 1980s the group established an internationally recognized palynological school in Central Europe, which is documented by a number of foreign exchanges and cooperative studies. For Slovakia E. Krippel published a comprehensive study of postglacial development of vegetation in that area (Krippel 1986). A summary of the major interactions and developments during the past century is shown in Fig. 3.

The first attempts to establish a Holocene pollen database for former Czechoslovakia were made by E. Rybníčková and K. Rybníček based on isopollen maps (Rybníčková & Rybníček 1988b, Rybníček & Rybníčková 1994) and profited from the wide synthesis published by Rybníčková (1985). Then, an advanced pollen database was created by Pokorný (2002b, 2004); however, much of the data were extracted directly from pollen diagrams by recalculating scanned pollen curves. Therefore, we decided to collect all the pollen data for the Czech Republic and store them in a unified database.

Data collection, database structure and nomenclature in PALYCZ

PALYCZ contains data from quaternary pollen sequences from the Czech Republic that were mainly analysed after the late 1950s. However, data are not included if: (i) the author is deceased and the data are lost, (ii) for some reason the data do not match pre-defined criteria (see the section Assessment of data quality) or (iii) they are is still undetermined for technical or other reasons proposed by the author. Additionally, we included into PALYCZ data from Slovakia collected by Czech and Polish palynologists and few sequences from bordering areas in Germany. All the pollen sequences were obtained directly from the authors or from original publications and where possible the raw pollen counts were stored with metadata from the locality. Metadata for each profile consists of author, a description of the locality (including geographic coordinates), type of sediment, radiocarbon dates, etc. A complete list of pollen profiles included in the database (as of 31. 12. 2008) is available in Appendix 1 and their geographical distribution is shown in Fig. 4.

The PostgreSQL® database software was used to store the data. This is an open source application, which offers easy implementation into html protocol. The structure of the database follows the EPD structure. Data are stored in relational tables to allow for a very broad range of queries, which may provide answers to very specific scientific questions. PALYCZ maintains original taxa names used by each pollen analyst. These names are then linked to two alternative nomenclatures: PALYCZ taxa, which is based on ALPADABA and includes details of the taxa designated by the original authors, and Beug taxa (Beug 2004), which merge some groups.

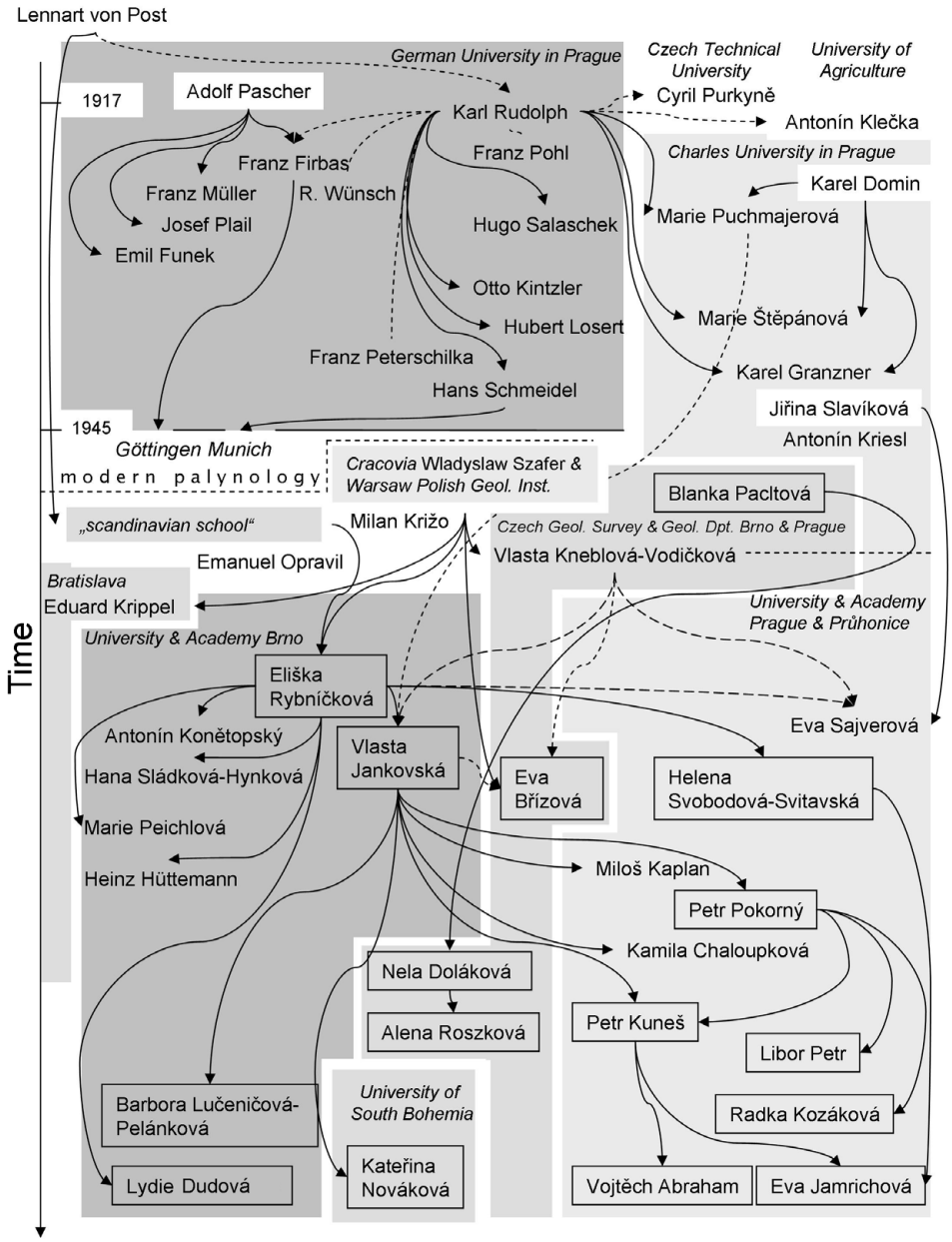

Fig. 3. – A summary of the interactions and developments in Czech quaternary pollen analysis (inspired by Birks 2005): full arrow: teacher (official)–student; dotted arrow: flow of inspiration or teacher (non-official)–student; italics – names of institutions; names in rectangle: living active palynologist, A. Pascher, K. Domin, J. Slavíková – official teachers of some palynologists.

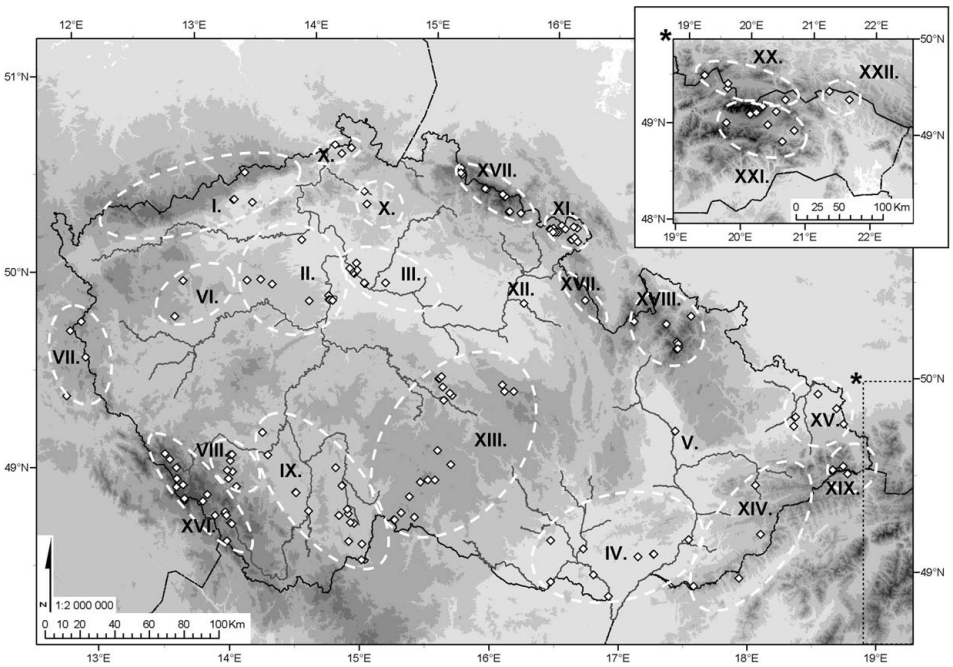

Fig. 4. – Location of all 120 sites projected on a hypsometric map of the Czech Republic and relevant neighbouring areas. For a complete list of localities refer to Appendix 1. Roman numerals refer to the main geomorphological regions in Appendix 1.

We developed the PALYCZ 1.0 utility for importing spreadsheets of pollen counts into the database structure and for matching original taxa names with PALYCZ taxa. An updated version of the database is accessible at http://botany.natur.cuni.cz/palycz.

PALYCZ is also designed for routine use by the palynological community. It allows for the submission of new profiles along with their metadata, which remain in the category "unfinished". Data are stored in the database under three different categories: open (can be publicly used), restricted (finished but not published) and ongoing (unfinished).

Chronologies

PALYCZ contains 292 ^{14}C and 6 ^{210}Pb dates for 76 profiles. In all, there are 27 entities with one or two dates only. When constructing depth-age models, calibrated BC/AD radiocarbon dates were mainly interpolated linearly between the midpoints using a 2σ range of error. For the construction of depth-age models, we used the application written by Maarten Blaauw (in prep.) for the R program (R Development Core Team 2008).

To demonstrate possibilities and weaknesses of depth-age models we provide four examples (Fig. 5). Poor chronological information on pollen sequence is quite a common problem with the data in PALYCZ, which results in it being only possible to predict (estimate) one or two dates using the depth age model (as in Fig. 5d).

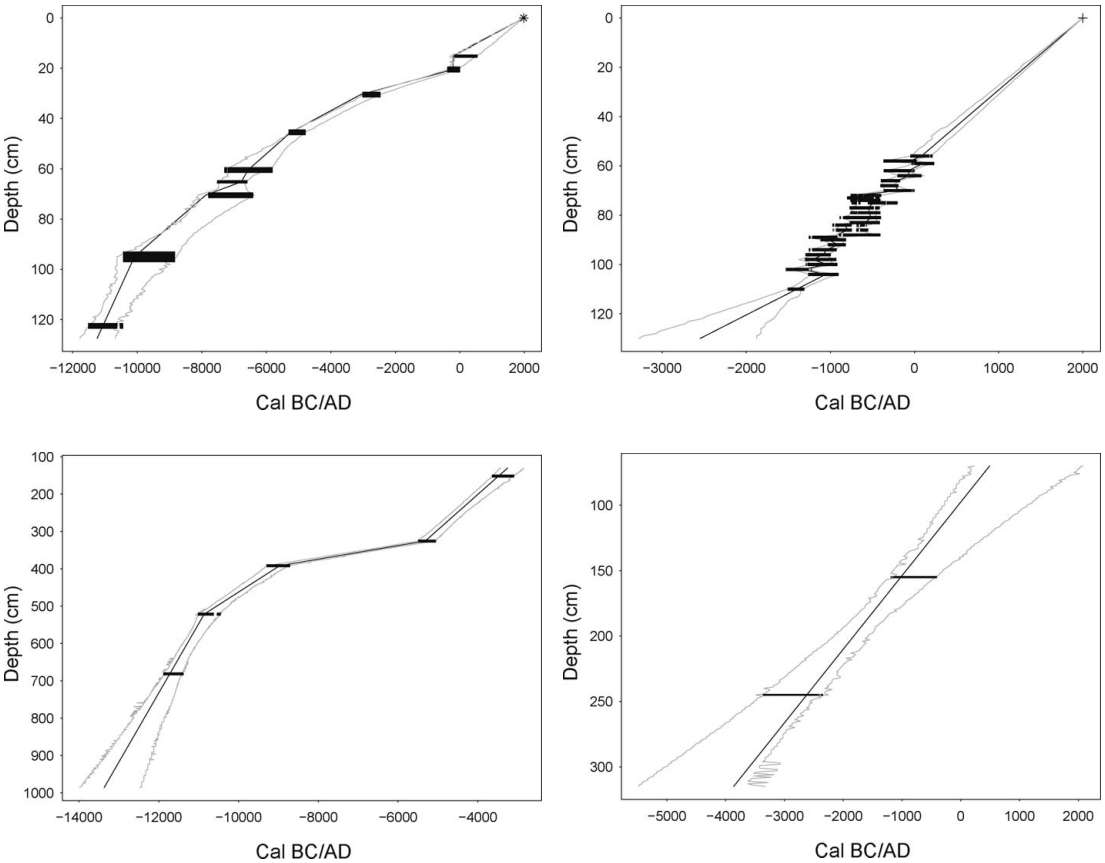

Fig. 5. – Depth-age models of four entities showing a good model that can be extrapolated (a), the best chronology but for a particular period only (b), the problem of making a long extrapolation into the late glacial (c), model based on two datapoints with linear interpolation and a large uncertainty interval (d).

Basic statistics of data

In total, 609,896 items (= count for profile, depth and taxa) from 5901 samples, 152 entities and 120 sites reported by 19 authors are currently included in PALYCZ. All items can be divided among: herbaceous pollen (51%), tree-shrub pollen (26%), aquatics (7%), spores of vascular plants and bryophytes (7%), non-pollen objects (fungal spores, animals, tertiary spores, etc.) 5% and algae (3%). Microscopic particles of charcoal were counted in 14 profiles.

A complete list of all the localities studied is presented in Appendix 1. We also recorded repeated research at localities and the 16 most revisited are presented in the following list (number in brackets indicates number of studies undertaken at each locality including of different profiles by the same author): Komořanské jezero (5), Pančavská louka (5), Hrabanovská černava (4), Malá Jizerská louka (4), Úpské rašeliniště (4), Barbora (3), Borkovická blata (3), Černá hora (3), Černovír (3), Červené blato (3), Kepník (3), Mělnický úval (3), Rejvíz (3), Švarcenberk (3), Velká Jizerská louka (3) and Vracov (3).

Assessment of data quality

If we disregard available metadata on location, dating, stratigraphy etc., the quality of any given sample is influenced by three main factors: (i) the level to which all objects were determined (palynomorphs, sporomorphs, non-pollen objects), (ii) pollen sum and (iii) pollen influx.

(i) The most important factors influencing quality of data are when the pollen analysis was done and its author. The criteria we used were that the profile must contain well identified herbaceous taxa and recorded at a time when radiocarbon dates were generally accepted as reliable. For this reason, we did not include the data of most early German authors (for review see Appendix 1) or from studies prior to 1959 (first analysed profile of Brušperk is in PALYCZ; see the section Data collection, database structure and nomenclature in PALYCZ). Authors influence the quality of taxonomic determination, especially of herbaceous taxa. Some authors only determine the families in particular cases, while others name species if possible. That is why there are several taxonomical levels in PALYCZ, e.g. *Pinus* at a high level contains two pollen types, *Pinus sylvestris* and *Pinus cembra*. In this case, it is possible to avoid several errors that might arise from detailed queries. The data source may also cause errors, especially when data are stored in an electronic form. We first collected sequences stored in the EPD, but counts and even metadata had to be corrected based on the original spreadsheets. For the types of errors encountered see Fyfe et al. (2009).

(ii) Pollen sum mainly depends on the preservation of the sediment from which the sample was taken, but also on the purpose of the study. In PALYCZ, 3% of the samples have a sum lower than 200 pollen grains, 21% between 200 and 400, 60% between 400 and 1000 and 16% more than 1000 pollen grains.

(iii) Adding and counting exotic markers in order to determine pollen influx was not widely used by Czech palynologists. An indicator (*Lycopodium* tablets) was used in eight profiles, totalling 398 samples, which is lower than 1% of the whole database. Only 17% of the samples for which pollen influx was determined lie between the recommended rates of 1:5 and 2:5 (Moore et al. 1991), while 25% of the samples have more indicators and 58% more fossil pollen.

Analysis of main pattern in data using multivariate methods

Multivariate statistical analysis was used to determine the main patterns in the data. We extracted all pollen samples from PALYCZ with percentages of pollen taxa related to total pollen sum, which was the sum of arboreal and non-arboreal pollen. The pollen nomenclature was standardized to conform to Beug (2004) and taxa were not included in the database if based on fewer than 30 pollen grains.

The samples were analysed by non-metric multidimensional scaling (NMDS; Kruskal 1964), the most robust and effective technique for the ordination of community data (Minchin 1987). NMDS orders samples in a specified number of dimensions, such that the distances among all pairs of quadrats in the ordination are, as far as possible, in rank-order agreement with compositional dissimilarities among the samples. We used two dimensions and the Jaccard quantitative index as measures of compositional dissimilarity. In order to reduce the weight of the dominant species the percentages of pollen taxa were

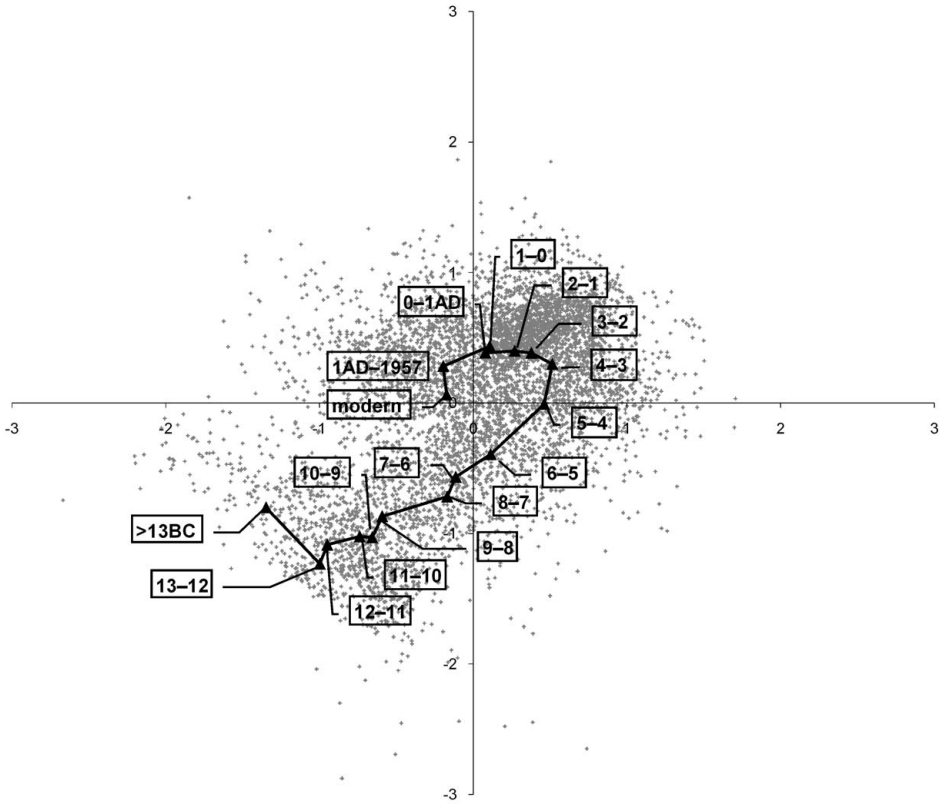

Fig. 6. – NMDS ordination scatterplot of samples. Grey dots indicate pollen samples, black triangles indicate averages of the scores for each stratigraphically connected time slice. Time is indicated in thousands of years BC or AD.

square-root transformed before computation of the Jaccard index. NMDS ordination was performed in PC-ORD program (McCune & Mefford 1999) with 50 random starts and a maximum of 100 iterations of each run.

Further, millennial time slices were determined according to calibrated radiocarbon years for localities for which there were depth-age models (see above). An average time was calculated for the ordination scores of all samples in each time slice (1000 years) and then displayed in the ordination diagram. A line connects the average points according to their position on the time scale (from the oldest to the youngest).

Results of the NMDS analysis of all pollen samples are shown in the ordination diagram (Fig. 6). The pattern in the data follows vegetation development from late-glacial cold steppes and open forests to Holocene forests dominated by broad-leaved tree species. During the Holocene, the vegetation development follows a typical interglacial pattern (Birks & Birks 2004), namely from forests dominated by pioneer deciduous trees and conifers, through mixed deciduous forests and back to conifers.

Concluding remarks

Over the last hundred years, a large amount of pollen analytical data was collected in the former Czechoslovakia. There was a significant increase in the quality of this data, especially over the last 50 years, as all data from this time attained current standards. Improvement in the methodological and conceptual approach of vegetational historical studies is clearly visible at reinvestigated sites. Scientists realized that they can reuse a unique sediment by improving taxonomic resolution and thus obtain a better chronology or higher resolution for answering specific questions more precisely. Some places were revisited several times, and this can be attributed not only to a desire for improving the quality of the data, but also to the uniqueness of such sites.

Data stored in PALYCZ can be used for testing ecological hypotheses and answering questions concerning species migration, human impact, or nature conservation. However, this ongoing research identified three main problems that should be addressed in future studies: (i) the very poor chronology of sequences, (ii) a lack of influx pollen counts, and (iii) temporal and spatial resolution of both samples and sites. We would like to encourage all quaternary pollenanalysts to join the common network, which is based regionally (PALYCZ) or internationally (EPD), and submit their data to the databases. We plan to develop PALYCZ in the future to include an administrative interface where authors can submit, edit and track their own data. We hope that the missing aspects highlighted in this paper will be finally filled and encourage authors to believe that such an endeavour would be to their advantage.

Acknowledgements

We wish to thank all authors who have contributed or want to contribute their data to PALYCZ. Namely we thank Heinz Hüttemann, Kamila Chaloupková, Miloš Kaplan, Vlasta Kneblová-Vodičková, Antonín Konětopský, Marie Peichlová, Maurice Reille, Eva Sajverová and Alessandra Speranza, who are either deceased or inactive or unknown. We would also like to express our thanks to Magda Konzalová and Felix Bittmann for providing us with important texts concerning the history of palynology in Czechoslovakia. We thank Kamil Rybníček and František Krahulec for valuable comments, corrections and suggestions. PALYCZ was funded by the Grant Agency of Charles University, project no. GAUK 29407. Several projects have helped with the data collection: Grant Agency of the Czech Republic GA526/06/0818, Grant Agency of the Academy of Science of the Czech Republic IAAX00020701, IAAX00050801, IAA600050812, Ministry of Education MSM0021620828 and Academy of Sciences AV0Z60050516.

Souhrn

Článek reviduje data z kvartérních palynologických profilů, které vznikly na území České republiky, s cílem shromáždit je v České kvartérní pylové databázi (PALYCZ) a nastínit možnosti jejich využití při regionálních syntézách (databáze obsahuje též profily pořízených českými a polskými palynology na Slovensku a v příhraničních oblastech Německa). Práce na pylových stratigrafiích přinesly za posledních sto let výjimečné množství dat, která je možno využít pro různé typy rekonstrukcí prostředí. Ve spojení s dalšími místními databázemi mají tato data i značný lokální význam. Pro zahrnutí dat do databáze PALYCZ byla stanovena kritéria, že určování pylu musí zahrnovat detailnější rozlišení bylin a radiokarbonová data musí být již obecně dostupná. K 31. prosinci 2008 bylo revidováno 177 pylových profilů. Data ze 152 sekvencí jsou již uložena v relačních tabulkách PostgreSQL®, aby umožnila širokou škálu dotazů pomocí protokolu html. Od roku 1959 byla data analyzována celkem 15 autory; skládají se z originálních pylových počtů, ^{14}C dat and různých metadat o lokalitě. Data jsme analyzovali s použitím ordinace všech pylových vzorků pomocí nemetrického mnohorozměrného škálování (NMDS). Ordinační diagram s odpovídajícími tisíciletými intervaly odráží hlavní strukturu dat. Diskutována je též kvalita dat v kontextu s historií výzkumu a použitými metodami. Databáze je umístěna na adrese http://botany.natur.cuni.cz/palycz.

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Appendix 1. – Sites included in the Czech Quaternary Palynological Database. Revisited sites are in bold script, alternative names for the site are in brackets. E – number of entities at the site included in the database; * import of data is in progress due to technical reasons. D – number of datings (^{14}C and ^{210}Pb) per site, E10 – number of all entities within 10 km around the site (E included). Sites are grouped according to main geomorphological units (see Fig. 4). Arrows separate independent studies of revisited sites. Note that for additional sites in Germany (DEU) and Slovakia (SVK) no previous studies have been included (marked as –)

Site name	Country	E	D	Oldest ^{14}C date BP per site	Contributors	Citation to all cores from the site	Coordinates (WGS 1984)		E10	Citations to all other sites within 10 km around the site
							X	Y		
I. Ore Mountains and Podkrušnohorská Basin										
Fláje – Kiefern	CZE	1	3	9191	Jankovská	Jankovská et al. 2007	13.579870	50.682940	2	Rudolph & Firbas 1924
Komořanské jezero (Kommerner See)	CZE	5	4	7770	Jankovská	Rudolph 1926 → Losert 1940a → Jankovská 1983; Jankovská 1984 → Jankovská 1988a → Jankovská 2000	13.518350	50.535070	7	Jankovská 1995b
Most	CZE	1*			Jankovská	Jankovská 1995b	13.673780	50.533850	3	Jankovská 1983, Jankovská 1984, Jankovská 1988a, Jankovská 2000, Losert 1940a, Rudolph 1926
II. Central Bohemia										
Břve	CZE	1	3	2344	Pokorný	Pokorný unpubl	14.244920	50.071780	1	
Červená louka (U Olešné na Červené louce)	CZE	1*			Rybníčková	Puchmajerová 1947a → Rybníčková & Rybníček 1999	13.723220	50.131300	3	Rybníčková & Rybníček 1999
Klíčava	CZE	1			Rybníčková	Rybníčková & Rybníček 1999	13.833030	50.146160	5	Pokorný 2005, Puchmajerová 1947a, Rybníčková & Rybníček 1999
Praha-medieval archaeological context	CZE	16*			Jankovská; Kozáková; Pokorný	Kozáková & Pokorný 2007, Kozáková et al. 2009	14.428041	50.090262	3	Jankovská & Pokorný 2008
Praha-Podbaba	CZE	1	2	40418	Pokorný	Jankovská & Pokorný 2008	14.391670	50.112500	18	Kaplan unpubl, Kozáková & Pokorný 2007, Kozáková et al. 2009
Praha-Valdštejnská ulice	CZE	1*			Kozáková	Kozáková & Pokorný 2007	14.407350	50.089176	18	Jankovská & Pokorný 2008, Kaplan unpubl, Kozáková et al. 2009
Pražský hrad	CZE	1*			Kozáková	Kaplan unpubl → Kozáková et al. 2009	14.400448	50.090488	18	Jankovská & Pokorný 2008, Kozáková & Pokorný 2007, Kozáková et al. 2009
Rynholec	CZE	1* 1	4	10271	Břízová; Rybníčková; Pokorný	Rybníčková & Rybníček 1999 → Břízová 1999b → Pokorný 2005	13.929700	50.129280	3	Puchmajerová 1947a, Rybníčková & Rybníček 1999
Zahájí	CZE	1	5	4788	Pokorný	Pokorný 2005	14.115550	50.379220	1	

Site name	Country	E	D	Oldest ^{14}C date BP per site	Contributors	Citation to all cores from the site	Coordinates (WGS 1984)		E10	Citations to all other sites within 10 km around the site
							X	Y		
III. Polabí Lowland										
Hrabanovská černava (Moor bei Lissa-Hrabanow)	CZE	1	4	13630	Petr	Klečka 1926a → Losert 1940c → Pacltová & Hubená 1994 → Petr 2005	14.831580	50.216390	3	
Chrást	CZE	1	6	8630	Břízová	Břízová 1999a	14.544060	50.260300	9	Dreslerová et al. 2004, Dreslerová & Pokorný 2004, Klečka 1926a, Losert 1940b, Petr unpubl, Petr, 2005
Chrást u přejezdu	CZE	1	5	11523	Petr	Petr unpubl	14.593680	50.262040	11	Břízová 1999a, Dreslerová et al. 2004; Dreslerová & Pokorný 2004, Klečka 1926a, Losert 1940b, Petr unpubl, Petr 2005
Kozly	CZE	2			Petr	Petr & Pokorný 2008	14.563480	50.247050	11	Dreslerová et al. 2004, Dreslerová & Pokorný 2004, Gough 1992, Klečka 1926a, Losert 1940c, Petr unpubl, Petr 2005
Mělnický úval (Wschetater Urwiesen, Vsetater Moor)	CZE	1	2	14200	Petr	Klečka 1926a → Losert 1940b → Petr 2005	14.578110	50.299250	10	Dreslerová et al. 2004, Dreslerová & Pokorný 2004, Klečka 1926a, Petr unpubl
Stará Boleslav	CZE	2	4	1920	Břízová	Břízová 1999a	14.667430	50.197930	9	Dreslerová et al. 2004, Firbas 1927, Gough 1992, Petr unpubl
Tišice	CZE	1	2	4241	Pokorný	Dreslerová & Pokorný 2004	14.532510	50.266910	9	Klečka 1926a, Losert 1940b, Petr unpubl, Petr 2005
IV. Southern Moravian Basin										
Bulhary	CZE	1*	1	25675	Rybníčková	Rybníčková & Rybníček 1991	16.749920	48.837510	1	
Dvůr Anšov	CZE	1	4	8300	Svobodová-Svitavská	Svobodová 1992	16.422540	48.777280	1	Peschke 1977
Olbramovice (Wolframitz)	CZE	1	3	3825	Svobodová-Svitavská	Salaschek 1936 → Svobodová 1992	16.386600	48.990670	2	
Pohansko	CZE	2			Svobodová-Svitavská Roszková	Svobodová 1990 → Macháček et al. 2007	16.885850	48.734830	1	
Svatobořice-Mistřín	CZE	1	5	6620	Svobodová-Svitavská	Svobodová 1989	17.081880	48.954320	3	Rybníčková & Rybníček 1972, Sládková-Hynková 1974, Svobodová 1997
Uherské Hradiště	CZE	1*			Svobodová-Svitavská	Svobodová 1990	17.466250	49.070558	1	
Velké Němčice	CZE	1	1	1715	Svobodová-Svitavská	Svobodová 1990	16.650250	48.966930	1	

Site name	Country	E	D	Oldest ^{14}C date BP per site	Contributors	Citation to all cores from the site	Coordinates (WGS 1984)		E10	Citations to all other sites within 10 km around the site
							X	Y		
Vracov	CZE	3	7	11995	Rybníčková Svobodová-Svitavská	Rybníčková & Rybníček 1972 → Sládková-Hynková 1974 → Svobodová 1997	17.202360	48.977880	3	Svobodová 1989
V. Upper Moravian Basin										
Černovír (Olmützer Moor, V Černovírském lese)	CZE	1	1	12060	Jankovská	Salaschek 1936 → Puchmajerová 1947b → Jankovská 2003	17.275280	49.623880	5	Puchmajerová 1947b
VI. Plzeň Upland										
Hůrky u Úněšova	CZE	1	3	4435	Svobodová-Svitavská	Svobodová-Svitavská unpubl	13.192264	49.889102	1	
Vladař	CZE	1	6	2245	Pokorný	Pokorný et al. 2006	13.217560	50.079960	1	
VII. Upper Palatinate Forest										
Brentenlohe	DEU	1	3	8650	Knipping	Knipping 1989	12.462500	49.787220	2	Knipping 1989 –
Kulzer Moos	DEU	2	13	10740	Knipping	Knipping 1989	12.442780	49.394720	1	
Weiherlohe	DEU	1	4	9385	Knipping	Knipping 1989	12.387500	49.729720	2	Knipping 1989 –
Windbruch	DEU	1	5	10150	Knipping	Knipping 1989	12.542780	49.609170	1	
VIII. Bohemian Forest Foothils										
Bohumilice	CZE	1*			Rybníčková	Moravec & Rybníčková 1964, Rybníčková 1973	13.807910	49.098020	4	Moravec & Rybníčková 1964, Rybníčková 1973
Kraselov	CZE	1*			Rybníčková	Rybníčková 1973	13.808100	49.226260	4	Rybníčková 1973
Lštění	CZE	1*			Rybníčková	Moravec & Rybníčková 1964, Rybníčková 1973	13.878670	49.062860	4	Kral 1979, Rybníčková 1973
Mladotice	CZE	1			Rybníčková	Rybníčková 1973	13.795140	49.222750	5	Rybníčková 1973
Nahořany	CZE	1			Rybníčková	Rybníčková 1973	13.829940	49.137320	6	Moravec & Rybníčková 1964, Rybníčková 1973
Němčice	CZE	1			Rybníčková	Rybníčková 1973	13.801440	49.191870	5	Rybníčková 1973
Vacovice	CZE	1			Rybníčková	Rybníčková 1973	13.790160	49.140570	6	Moravec & Rybníčková 1964, Rybníčková 1973
IX. South Bohemian Basins										
Barbora (Revír Sv. Barbory, Svatá Barbora)	CZE	1			Jankovská	Štěpánová 1930 → Puchmajerová & Jankovská 1978 → Jankovská 1980	14.833290	48.955840	18	Jankovská 1980, Jankovská 1987, Nováková et al. 2008, Puchmajerová & Jankovská 1978, Štěpánová 1930
Borkovická blata (Veselská blata, Borkowitzer Moor)	CZE	3	4	11595	Jankovská	Klečka 1926a → Puchmajerová & Jankovská 1978 → Jankovská 1980	14.632700	49.232770	5	

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							X	Y		
Branná	CZE	1			Jankovská	Jankovská 1980	14.805290	48.959090	18	Jankovská 1980, Jankovská 1987, Puchmajerová & Jankovská 1978, Štěpánová 1930
Červene blato (Borská blata, Červené blato u Šalmanovic)	CZE	3			Jankovská	Štěpánová 1930 → Puchmajerová & Jankovská 1978 → Jankovská 1980	14.810160	48.860780	17	Jankovská 1996, Nováková et al. 2008, Puchmajerová & Jankovská 1978, Rudolph unpubl, Štěpánová 1930
České Budějovice	CZE	1*			Jankovská	Pokorný et al. 2002	14.466530	48.989170	1	
Halámky	CZE	1*			Jankovská	Jankovská 1996	14.916640	48.855820	17	Jankovská 1980, Nováková et al. 2008, Puchmajerová & Jankovská 1978, Rudolph 1917, Štěpánová 1930
Kožlí	CZE	1	3	8212	Pokorný	Pokorný & Kuneš 2009	14.020870	49.360060	1	
Mokré louky – North	CZE	1			Jankovská	Jankovská 1987	14.768910	49.024810	14	Jankovská 1980, Jankovská 1987, Němejc & Pacltová 1956, Puchmajerová & Jankovská 1978, Štěpánová 1930
Mokré louky – South	CZE	1	5	9630	Jankovská	Jankovská 1987	14.778040	49.002210	14	Jankovská 1980, Jankovská 1987, Němejc & Pacltová 1956, Puchmajerová & Jankovská 1978, Štěpánová 1930
Řežabinec	CZE	1	9	9095	Rybníčková	Rybníčková & Rybníček 1985	14.089680	49.250190	1	
Spolí	CZE	1			Jankovská	Jankovská 1980	14.710260	48.987100	13	Jankovská 1980, Jankovská 1987, Puchmajerová & Jankovská 1978, Štěpánová 1930
Švarcenberk	CZE	2	5	11750	Jankovská; Pokorný	Jankovská 1980 → Pokorný 2002a, Pokorný & Jankovská 2000 → Pokorný et al. 2008b	14.704820	49.145620	5	Klečka 1926a, Pacltová & Špinar 1958, Puchmajerová & Jankovská 1978
Velanská cesta	CZE	1 1*	2	8360	Jankovská; Nováková	Jankovská 1970 → Nováková et al. 2008	14.928290	48.774770	10	Jankovská 1996, Puchmajerová & Jankovská 1978, Rudolph unpubl, Štěpánová 1930
Zbudovská blata	CZE	2	4	10341	Rybníčková	Rybníčková et al. 1975, Rybníčková 1982	14.347080	49.076530	2	
X. Bohemian Switzerland and Ploučnice Region										
Česká Lípa (Schiessniger Heide)	CZE	1	2	4100	Kuneš	Firbas 1927 → Kuneš unpubl	14.564570	50.673080	11	Firbas 1927, Jankovská 1992
Jelení louže	CZE	1	5	5650	Pokorný	Pokorný & Kuneš 2005	14.276610	50.892610	3	Abraham 2006, Kuneš et al. 2007
Jestřebské blato (Habsteiner Moor)	CZE	1			Jankovská	Firbas 1927 → Jankovská 1992	14.598580	50.608780	10	Firbas 1927, Kuneš unpubl
Nad Dolským mlýnem	CZE	1	2	6000	Abraham	Abraham 2006, Pokorný et al. 2008a	14.338730	50.852330	3	Kuneš et al. 2007, Pokorný & Kuneš 2005

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							X	Y		
Pryskyřičný důl	CZE	1	8	2465	Abraham; Pokorný	Abraham & Pokorný 2008	14.413140	50.887570	3	Abraham 2006, Pokorný & Kuneš 2005
XI. Broumov Region										
Anenské údolí	CZE	1	4	7905	Kuneš	Pokorný & Kuneš 2005	16.117450	50.588730	11	Chaloupková 1995, Kuneš & Jankovská 2000, Peichlová 1977
Broumovské stěny	CZE	2			Peichlová	Peichlová 1979	16.282570	50.555750	11	Chaloupková 1995, Peichlová 1979, Stark & Overbeck 1929
Březová	CZE	1			Peichlová	Peichlová 1979	16.227400	50.606390	16	Chaloupková 1995, Kuneš & Jankovská 2000, Peichlová 1979, Pokorný & Kuneš 2005
Heřmánkovice	CZE	1			Peichlová	Peichlová 1979	16.324400	50.617670	9	Peichlová 1979
Hynčice	CZE	1			Peichlová	Peichlová 1979	16.292400	50.622170	10	Peichlová 1979
Kancelářský příkop	CZE	1*			Chaloupková	Chaloupková 1995	16.104038	50.596663	11	Chaloupková 1995, Kuneš & Jankovská 2000, Kuneš et al. 2007, Peichlová 1979, Pokorný & Kuneš 2005
Kraví hora	CZE	1*			Chaloupková	Chaloupková 1995	16.152404	50.584067	13	Chaloupková 1995, Kuneš & Jankovská 2000, Kuneš et al. 2007, Peichlová 1979, Pokorný & Kuneš 2005
Křinice	CZE	1			Peichlová	Peichlová 1979	16.309000	50.569560	10	Peichlová 1979
Martínkovice	CZE	1			Peichlová	Peichlová 1979	16.337790	50.547100	7	Peichlová 1979, Stark & Overbeck 1929
Rokliny	CZE	2*			Chaloupková	Chaloupková 1995	16.111560	50.594203	11	Chaloupková 1995, Kuneš & Jankovská 2000, Kuneš et al. 2007, Peichlová 1979, Pokorný & Kuneš 2005
Teplice nad Metují	CZE	1			Peichlová	Peichlová 1979	16.173620	50.585470	15	Chaloupková 1995, Kuneš & Jankovská 2000, Kuneš et al. 2007, Peichlová 1979, Pokorný & Kuneš 2005
Teplické údolí	CZE	1 1*	5	7504	Chaloupková; Kuneš	Chaloupková 1995 → Kuneš & Jankovská 2000	16.131530	50.584940	11	Chaloupková 1995, Kuneš & Jankovská 2000, Kuneš et al. 2007, Peichlová 1979, Pokorný & Kuneš 2005
Vernéřovice	CZE	2	9	11790	Peichlová	Peichlová 1979	16.195770	50.621650	16	Chaloupková 1995, Kuneš & Jankovská 2000, Peichlová 1979, Pokorný & Kuneš 2005
Vlčí rokle	CZE	1	4	10563	Jankovská	Kuneš & Jankovská 2000	16.128410	50.604500	11	Chaloupková 1995, Kuneš & Jankovská 2000, Peichlová 1979, Pokorný & Kuneš 2005

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							X	Y		
XII. Upper Labe Basin										
Na bahně	CZE	1	3	2020	Pokorný	(Pokorný et al. 2000)	15.961190	50.198880	1	
XIII. Bohemian-Moravian Highlands										
Bláto	CZE	2	2	11060	Rybníčková	Rybníček & Rybníčková 1968	15.190970	49.041740	7	Rybníčková 1974, Rybníčková & Rybníček 1975, Salaschek 1936
Doupě	CZE	1			Konětopský	Rybníčková 1974	15.424300	49.233980	5	Križo 1958, Rybníčková 1974, Salaschek 1936
Hojkov	CZE	1			Rybníčková	Rybníčková 1974	15.416010	49.388420	1	Rybníčková 1974
Horní Pole	CZE	1			Rybníčková	Rybníčková 1974	15.314780	49.213170	7	Križo 1958, Rybníčková 1974, Salaschek 1936
Hroznotín	CZE	1			Jankovská	Jankovská 1971	15.355380	49.758110	5	Jankovská unpubl, Jankovská 1971, Kriesl 1959
Chraňbož	CZE	2			Jankovská	Jankovská 1971	15.375340	49.770670	5	Jankovská unpubl, Jankovská 1971, Kriesl 1959
Kameničky	CZE	1	9	11070	Rybníčková	Rybníčková & Rybníček 1988a	15.963640	49.738670	4	Peichlová 1977, Puchmajerová 1943
Loučky	CZE	1	1	10225	Rybníčková	Rybníčková 1974	15.533550	49.324160	1	
Malčín	CZE	1			Jankovská	Jankovská 1989	15.459050	49.691590	5	Jankovská unpubl, Jankovská 1989
Palašiny	CZE	2	1	9530	Jankovská	Jankovská 1989	15.477960	49.681340	5	Jankovská unpubl, Jankovská 1989
Pfaffenschlag	CZE	2			Rybníčková	Rybníčková & Rybníček 1975	15.140770	49.001840	5	Rybníček & Rybníčková 1968, Salaschek 1936
Rváčov	CZE	1*			Peichlová	Peichlová 1977	15.868220	49.766500	4	Kneblová-Vodičková unpubl, Puchmajerová 1943, Rybníčková & Rybníček 1988a
Řásná	CZE	1	1	9610	Rybníčková	Rybníčková 1974	15.370830	49.230560	6	Križo 1958, Rybníčková 1974, Salaschek 1936
Stálkov	CZE	1			Rybníčková	Rybníčková 1974	15.300710	49.027650	4	Rybníček & Rybníčková 1968, Salaschek 1936
Suchdol	CZE	1			Rybníčková	Rybníčková 1974	15.241590	49.132800	2	Salaschek 1936
Zalíbené	CZE	1*			Kneblová-Vodičková	Kneblová-Vodičková 1961a, 1966b, 1970	15.891670	49.733250	6	Peichlová 1977, Puchmajerová 1943, Rybníčková & Rybníček 1988a
Závidkovice	CZE	1			Jankovská	Jankovská 1989	15.416670	49.650000	5	Jankovská unpubl, Jankovská 1989
Žebrákov	CZE	1*			Jankovská	Jankovská unpubl	15.397630	49.718380	8	Jankovská 1971, Jankovská 1989

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							X	Y		
XIV. Slovak-Moravian Carpathians										
Královec	CZE	1	2	1040	Rybníčková	Rybníček & Rybníčková 2008, Rybníčková et al. 2005	18.027780	49.131940	1	
Machová	CZE	1	1	890	Rybníčková	Rybníček & Rybníčková 2008, Rybníčková et al. 2005	17.540920	48.830810	1	
Tlstá hora	SVK	1	4	3920	Rybníčková	Rybníček & Rybníčková 2008, Rybníčková et al. 2005	17.888510	48.894150	1	
XV. Ostrava and Opava Basins										
Brušperk	CZE	1*			Kneblová-Vodičková	Kneblová 1958	18.212160	49.706830	3	Kneblová 1956b
Český Těsin	CZE	1*			Kneblová-Vodičková	Kneblová-Vodičková 1962	18.607790	49.738450	2	Břízová 1994, Kneblová-Vodičková 1961b
Stará Bělá	CZE	2*			Kneblová-Vodičková	Kneblová 1956b	18.217980	49.753160	4	Fejfar et al. 1955, Kneblová 1958
Stonava	CZE	1*			Kneblová-Vodičková Břízová	Kneblová-Vodičková 1961b → Břízová 1994	18.543430	49.815740	2	Kneblová-Vodičková 1962
Škrečoň	CZE	2			Kneblová-Vodičková	Kneblová 1965	18.383330	49.883330	2	
XVI. Bohemian Forest										
Březník (Blatenské slatě, Plattenhausenfilz)	CZE	2			Svobodová-Svitavská	Klečka 1928 → Svobodová-Svitavská unpubl	13.488780	48.962310	8	Klečka 1928, Rudolph unpubl, Svobodová et al. 2002
Hůrecká slať (Neuhüttenfilz)	CZE	1			Svobodová-Svitavská	Klečka 1928 → Svobodová et al. 2002	13.327550	49.152220	3	Svobodová-Svitavská unpubl
Chalupská slať (Seeheider Filz)	CZE	1			Svobodová-Svitavská	Müller 1927 → Svobodová-Svitavská unpubl	13.662860	49.000610	13	Klečka 1928, Müller 1927, Rudolph UNPUBL, Svobodová et al. 2002
Knížecí pláně	CZE	1	1	9120	Svobodová-Svitavská	Svobodová et al. 2001	13.635030	48.964550	12	Klečka 1928, Müller 1927, Rudolph UNPUBL, Svobodová-Svitavská unpubl
Malá niva	CZE	1	3	5125	Reille	Svobodová et al. 2002	13.816060	48.913760	9	Kral 1979, Reille unpubl, Rudolph unpubl, Svobodová et al. 2001, Svobodová et al. 2002
Mrtvý luh	CZE	2	10	9190	Svobodová-Svitavská Reille	Reille unpubl, Svobodová et al. 2001	13.872170	48.872280	7	Kral 1979, Svobodová et al. 2001, Svobodová et al. 2002
Nový Brunst	CZE	1			Svobodová-Svitavská	Svobodová-Svitavská unpubl	13.282750	49.177280	2	Svobodová et al. 2002

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							X	Y		
Plešné jezero	CZE	3	6	8264	Jankovská; Svobodová-Svitavská	Jankovská 2006 → Svobodová-Svitavská unpubl	13.865710	48.776740	3	Brande 1995
Prášily – pod Předělem	CZE	1			Svobodová-Svitavská	Svobodová-Svitavská unpubl	13.405310	49.058640	5	Klečka 1928, Svobodová et al. 2002
Prášily – Zadní chalupy	CZE	1			Svobodová-Svitavská	Svobodová-Svitavská unpubl	13.390690	49.114110	3	Klečka 1928, Svobodová et al. 2002
Rokytecká slať (Vietfelské slatě, Weitfallen Filz)	CZE	1			Svobodová-Svitavská	Klečka 1928 → Svobodová et al. 2002	13.412200	49.015300	6	Klečka 1928, Svobodová et al. 2002, Svobodová-Svitavská unpubl
Rybárenská slať (Fischerhüttenfilz)	CZE	1			Svobodová-Svitavská	Klečka 1928 → Svobodová et al. 2002	13.461890	49.031290	13	Klečka 1928, Rudolph unpubl, Svobodová et al. 2002, Svobodová-Svitavská unpubl
Stráženská slať (Wieherfilz bei Kuschwarda)	CZE	1	2	9680	Reille	Rudolph unpubl → Svobodová et al. 2001	13.742260	48.898870	7	Kral 1979, Svobodová et al. 2001, Svobodová et al. 2002
Velká niva	CZE	2			Svobodová-Svitavská	Svobodová et al. 2001, Svobodová et al. 2002	13.818570	48.924120	9	Kral 1979, Reille unpubl, Rudolph unpubl, Svobodová et al. 2001, Svobodová et al. 2002
XVII. Western Sudetes										
Bílé Labe (Moor auf der Weissen Aidse)	CZE	4	5	2900	Svobodová-Svitavská	Rudolph & Firbas 1927 → Svobodová 2004	15.697800	50.738890	20	Pacltová 1957, Puchmajerová 1929, Roszková 2007, Rudolph & Firbas 1927, Speranza 2000, Svobodová 2002
Černá hora (Černohorská rašelina)	CZE	2	9	2210	Speranza; Svobodová-Svitavská	Pacltová 1957 → Speranza et al. 2000a → Svobodová 2002	15.761270	50.662860	18	Puchmajerová 1929, Roszková 2007, Rudolph & Firbas 1927, Speranza 2000, Speranza et al. 2000b, Svobodová 2002, Svobodová 2004
Kunštátská kaple	CZE	2			Rybníčková	Rybníčková 1966	16.450000	50.250000	4	Müller 1929
Labská louka	CZE	2	5	4920	Svobodová-Svitavská	Svobodová-Svitavská unpubl	15.542160	50.770750	10	Jankovská 1970, Jankovská 2003, Jankovská 2004, Puchmajerová 1929, Rudolph & Firbas 1927, Speranza et al. 2000b, Stark & Overbeck 1929, Treml et al. 2008
Labský důl	CZE	1*	7	9572	Jankovská	Treml et al. 2008	15.554740	50.766060	12	Jankovská 2001, Puchmajerová 1929, Rudolph & Firbas 1927, Speranza et al. 2000b, Stark & Overbeck 1929, Svobodová-Svitavská unpubl

Site name	Country	E	D	Oldest ^{14}C date BP per site	Contributors	Citation to all cores from the site	Coordinates (WGS 1984)		E10	Citations to all other sites within 10 km around the site
							X	Y		
Malá Jizerská louka (Kleine Iserwiese)	CZE	1* 1*			Jankovská Sajverová	Plail 1927 → Puchmajerová 1936 → Sajverová 1981 → Jankovská unpubl	15.337610	50.823920	18	Plail 1927, Puchmajerová 1936, Sajverová 1981
Pančavská louka (Pančické rašeliniště Pantschemoor)	CZE	1 2*	35	7600	Hüttemann; Jankovská; Speranza	Rudolph & Firbas 1927 → Puchmajerová 1929 → Hüttemann & Bortenschlager 1987 → Speranza et al. 2000b → Jankovská 2001	15.541020	50.766190	10	Jankovská 2004, Puchmajerová 1929, Rudolph & Firbas 1927, Stark & Overbeck 1929, Svobodová-Svitavská unpubl, Treml et al. 2008
Rýchory	CZE	1*			Roszková	Roszková 2007	15.852673	50.660815	4	Pacltová 1957, Speranza et al. 2000a, Svobodová 2002
Stříbrná bystřina (Moor am Silberkamm)	CZE	1*			Roszková	Rudolph & Firbas 1927 → Roszková 2007	15.686060	50.748482	23	Jankovská 2001, Pacltová 1957, Puchmajerová 1929, Rudolph & Firbas 1927, Speranza 2000, Svobodová 2002, Svobodová 2004, Treml et al. 2008
Úpské rašeliniště (Moor am Koppenplan)	CZE	4	16	4490	Speranza; Svobodová-Svitavská	Rudolph & Firbas 1927 → Puchmajerová 1929 → Speranza 2000 → Svobodová 2002	15.712500	50.738890	20	Pacltová 1957, Puchmajerová 1929, Roszková 2007, Rudolph & Firbas 1927, Speranza et al. 2000a, Svobodová 2004
Velká Jizerská louka (Grosse Iserwiese)	CZE	1*			Sajverová	Plail 1927 → Puchmajerová 1936 → Sajverová 1981	15.326390	50.857400	18	Jankovská unpubl, Plail 1927, Puchmajerová 1936, Sajverová 1981
XVIII. Eastern Sudetes										
Barborka	CZE	1*			Rybníčková	Rybníček & Rybníčková 2004	17.229550	50.075070	8	Firbas & Losert 1949, Rybníček & Rybníčková 2004, Salaschek 1936
Keprník	CZE	1*	1	2090	Petr	Salaschek 1936 → Opravil 1959 → Treml et al. 2008	17.117439	50.170783	1	Opravil 1959
Mezikotlí	CZE	1*	1	528	Petr	Treml et al. 2008	17.231047	50.049755	9	Firbas & Losert 1949, Rybníček & Rybníčková 2004, Salaschek 1936
Mokrý hřbet	CZE	1*	1	4462	Jankovská	Jankovská unpubl	16.859470	50.168280	2	Salaschek 1936
Rejvíz (Moosebruch)	CZE	1*	6	7040	Dudová	Fahl 1926 → Salaschek 1936 → Navrátilová 2007	17.283340	50.210800	3	
Velká Kotlina	CZE	1*			Rybníčková	Rybníček & Rybníčková 2004	17.237580	50.060650	8	Firbas & Losert 1949, Rybníček & Rybníčková 2004, Salaschek 1936

Site name	Country	E	D	Oldest ^{14}C date BP per site	Contributors	Citation to all cores from the site	Coordinates (WGS 1984)		E10	Citations to all other sites within 10 km around the site
							X	Y		
Velký Děd	CZE	1	4	4620	Rybníčková	Rybníček & Rybníčková 2004	17.218110	50.084770	9	Firbas & Losert 1949, Opravil 1959, Rybníček & Rybníčková 2004, Salaschek 1936
Velký Máj	CZE	1	4	1945	Rybníčková	Rybníček & Rybníčková 2004	17.220290	50.047390	9	Firbas & Losert 1949, Rybníček & Rybníčková 2004, Salaschek 1936
XIX. Western Beskids										
Horní Lomná	CZE	1	3	5130	Rybníčková	Rybníček & Rybníčková 2008, Rybníčková et al. 2005	18.630830	49.520560	7	Jankovská 1995a, Puchmajerová 1945, Rybníček & Rybníčková 1995, Rybníček & Rybníčková 2008, Rybníčková et al. 2005
Jablůnka	CZE	1	2	44872	Jankovská	Jankovská & Pokorný 2008	17.950000	49.383330	1	
Kubriková	SVK	1	1	1730	Rybníčková	Rybníček & Rybníčková 2008, Rybníčková et al. 2005	18.672220	49.484170	6	
Kysuca	SVK	1*			Rybníčková	Rybníček & Rybníčková 1995	18.551540	49.498320	13	Jankovská 1995a, Puchmajerová 1945, Rybníčková et al. 2005, Salaschek 1936
Súlov	SVK	1*			Rybníčková	Rybníček & Rybníčková 1995	18.547340	49.493530	13	Jankovská 1995a, Puchmajerová 1945, Rybníček & Rybníčková 1995, Rybníček & Rybníčková 2008, Rybníčková et al. 2005, Salaschek 1936
XX. Outer Western Carpathians										
Bobrov	SVK	1	13	10150	Rybníčková	Rybníček & Rybníčková 1985	19.660530	49.445630	2	Rybníček & Rybníčková 1985 –
Jedlová	SVK	1			Rybníčková	Rybníčková & Rybníček 1985	19.660530	49.397010	2	Rybníčková & Rybníček 1985 –
Siváŕňa	SVK	1			Jankovská	Jankovská 1998	20.583330	49.316670	1	
Zlatnická Dolina	SVK	1	5	7450	Rybníčková	Rybníček & Rybníčková 1985	19.283330	49.516670	1	
XXI. Fatra-Tatra area										
Hozelec	SVK	1	3	11010	Jankovská	Jankovská 1988b	20.332000	49.046410	1	
Liptovský Ján	SVK	2	7	12960	Rybníčková	Rybníčková UNPUBL	19.677780	49.041670	2	
Podhorany	SVK	1			Jankovská	Jankovská 1972	20.470833	49.249167	1	
Popradské pleso	SVK	1			Rybníčková	Rybníčková & Rybníček 2006	20.135410	49.164340	2	Rybníčková & Rybníček 2006 –

Site name	Country	E	D	Oldest ^{14}C date BP per site	Contributors	Citation to all cores from the site	Coordinates (WGS 1984)		E10	Citations to all other sites within 10 km around the site
							X	Y		
Spišská Belá	SVK	1			Jankovská	Jankovská 1972	20.450000	49.184720	1	–
Šafárka	SVK	1	10	>52000	Jankovská	Jankovská & Pokorný 2008	20.575000	48.881950	1	–
Štrbské pleso	SVK	1			Rybníčková	Rybníčková & Rybníček 2006	20.044910	49.142450	2	Rybníčková & Rybníček 2006 –
Trojrohé pleso	SVK	1*	6	6050	Hüttemann	Hüttemann & Bortenschlager 1987	49.220140	20.226440	1	–
XXII. Lower Beskids										
Kružlová	SVK	1*			Wacnik	Wacnik 2001	21.583430	49.364170	1	–
Regetovka	SVK	1	5	6720	Wacnik	Wacnik 1995	21.279170	49.425000	1	–