

1	Introduction	13
2	Natural conditions	17
2.1	Geographical conditions	17
2.2	Geology, geomorphology and pedology	17
2.3	Climatic and hydrological conditions	18
2.4	Palaeoclimatology	18
2.5	Current vegetation	18
2.6	Palaeovegetation	19
3	Cultural and historical situation	21
4	Methodology	23
4.1	On-site sampling methodology	23
4.2	The methodology for extracting finds from sediments	23
4.3	The laboratory analysis method	25
4.4	Identifying plant macroremains	26
4.4.1	Criteria for determining the grains of cultivated crops	27
4.4.1.1	Cereal grains	27
4.4.1.2	Cereal chaff	27
4.4.1.3	Legumes	28
4.4.1.4	Oil and fibre plants	28
4.4.2	Criteria for the identification and determination of wild species	28
4.5	Evaluation methods	28
4.5.1	Quantification	29
4.5.2	Statistical analysis methods	29
4.5.2.1	Description of the method	29
4.5.2.2	Selection and end-processing of data	29
4.5.2.3	Detrended correspondence analysis (DCA)	30
4.5.3	Wilcoxon two-sample test method	30
4.5.3.1	Description of the method	30
4.5.4	Chi-squared goodness of fit test χ^2	31
4.5.4.1	Description of the method	31
4.5.5	Method using the ratio of the indexes of grain length and thickness	32
4.5.5.1	Description of the method	32

5

Characteristics of find contexts of archaeobotanical samples 33

5.1	Kopčany 33
5.1.1	The Church of St Margaret of Antioch 33
5.1.2	Kačenáreň 33
5.2	Mikulčice 35
5.2.1	Area 85 (T 2009) 35
5.2.2	Area 86 (Palace 2010) 36
5.2.3	Area 88 (Church III 2011) 37
5.2.4	Area 89 (Church VIII 2011) 37
5.2.5	Area 90 (Church IV 2012) 37
5.2.6	Area 91 (R 2012-I) 38
5.2.7	Area 93 (B 2012) 38
5.2.8	Area 95 (Z 2012 II) 39
5.2.9	Area 96 (R 2012-II) 39
5.2.10	Area 97 (Church V 2012) 40
5.2.11	Area 98 (Z 2012-III) 40
5.2.12	Area 100 (R 2012-III) 41
5.2.13	Area 103 (P 2013-I) 41
5.2.14	Area M17 41
5.3	Dating 42
5.3.1	Material 43
5.3.2	Results 43
5.3.3	Area 93 (riverbed) 44
5.3.4	Area 103 (outer bailey) 44
5.3.5	Results - Area 103 44

6

General results 47

6.1	Cultivated plants 47
6.1.1	Cereals 47
6.1.1.1	Alternative methods for the evaluation of cereals 52
6.1.2	Wilcoxon two-sample test 53
6.1.2.1	Application of the method 53
6.1.2.2	Wilcoxon two-sample test results 54
6.1.2.3	Summary 55
6.1.3	Legumes 55
6.1.4	Fruit and Nuts 57
6.1.5	Vegetables 60
6.1.6	Oil and fibre crops 60
6.1.7	Summary - cultivated plants 60
6.2	Wild plants 61
6.2.1	Field weeds 61
6.2.2	Gathered plants 63
6.2.3	Woody plants and shrubs 64
6.2.4	Species from other biotopes 65
6.2.5	Summary - wild species 67
6.3	Composition of the samples 68

7 Taphonomic analysis and origin of archaeobotanical samples 71

- 7.1 Introduction 71
- 7.2 Density of PMR 72
- 7.3 Multivariate statistics I 75
- 7.3.1 Wild plants - weeds or not? 81
- 7.3.2 Summary of DCA 82
- 7.4 Ratio of grain length and thickness coefficients 82
- 7.4.1 Method 82
- 7.4.2 Results 82
- 7.4.3 Summary of the ratio of grain length and thickness coefficients 85
- 7.5 Products and by-products and taphonomic role of crop processing 86
- 7.6 Taphonomic analyses 87
- 7.6.1 Method 1 - Weed seed categories 87
- 7.6.1.1 Application of method 1 90
- 7.6.1.2 Results of method 1 92
- 7.6.1.3 Summary of method 1 92
- 7.6.2 Method 2 - Crops to weed seeds 93
- 7.6.2.1 Application of method 2 93
- 7.6.2.2 Results of method 2 93
- 7.6.2.3 Summary of method 2 94
- 7.6.3 Chi-square goodness of fit test 95
- 7.6.3.1 Method application 95
- 7.6.3.2 Method results 95
- 7.6.3.3 Summary and interpretation of the chi-square goodness of fit test 96
- 7.6.4 Summary of the taphonomic analysis 96
- 7.6.5 Discussion of the results of the taphonomic analysis in a supraregional context 96

8 Economy 101

- 8.1 Model 1 101
- 8.1.1 Model 1 application 101
- 8.1.2 Model 1 results 101
- 8.1.3 Model 1 summary 102
- 8.2 Model 2 102
- 8.2.1 Model 2 application 102
- 8.2.2 Model 2 results 103
- 8.2.3 Model 2 summary 103
- 8.3 Archaeobotanical economic models 103
- 8.4 Economics of Mikulčice in the wider regional context 105
- 8.4.1 Storage of agricultural supplies in Mikulčice 105
- 8.4.2 Mikulčice-Kopčany and other sites 106

9 Ecological attributes of wild species 107

- 9.1 Multivariate statistics II 107
- 9.1.1 Selection, standardisation and transformation of data II 107
- 9.1.2 Detrended correspondence analysis (DCA) II 108
- 9.1.3 Phytosociological factors 108

9.2	Autoecological analysis of wild species	111
9.2.1	Climatic factors	112
9.2.1.1	Light	112
9.2.1.2	Temperature	114
9.2.1.3	Continentality	114
9.2.2	Soil factors	116
9.2.2.1	Soil moisture	116
9.2.2.2	Soil nitrogen	116
9.2.2.3	Soil reaction	119
9.2.3	Summary of the analysis of climatic and soil factors	120
9.2.3.1	Fields	120
9.2.3.2	Meadows and pastures	120
9.2.3.3	Ruderal settlement species	120
9.2.3.4	Forest	121
9.2.4	Soil reaction - the key to the solution of multiple archaeological questions	122
9.2.5	Biotic factors	125
9.2.5.1	Flowering period	125
9.2.5.2	Phytosociological analysis of wild species	126
9.2.6	Anthropogenic factors	128
9.2.6.1	Ploughing and tillage	128
9.2.6.2	Harvesting height	128
9.2.7	Summary of ecological analyses	129

10 Conclusion 133

Resumé	137
References	143
Attachments	153