

Table 9. Grain size data of sediment samples from core profiles of Lakes Bled and Bohinj

Depth in cms.	Grain size in μm					Medium grain si- ze μm	Sp. gravity of grain si- ze $<63 \mu\text{m}$	
	>63	18-63	5-18	2-5	<2			
		20-63*	6.3-20*	2-6.3*				
		weight percent						
BLEJSKO JEZERO - Core 1 B:								
0-5	19.10	1.07*	27.05*	9.48*	43.30	4.9	1.58	
5-10	11.81	2.80*	17.79*	25.65*	41.95	3.8	2.58	
10-15	4.12	6.11	31.82	10.38	47.57	3.0	2.47	
15-25	6.37	7.85	37.62	6.67	41.49	5.6	2.49	
BLEJSKO JEZERO - Core 15 B:								
0-5	16.13	2.74*	26.85*	16.01*	38.27	5.3	2.54	
5-10	9.83	4.24*	21.72*	22.76*	41.45	4.1	2.54	
10-15	4.68	2.46	29.38	17.76	45.72	3.1	2.54	
15-20	7.42	6.50	23.92	12.55	49.61	2.0	2.51	
20-25	3.23	8.89	34.05	9.42	44.41	3.1	2.52	
25-30	5.06	4.95	34.54	7.73	47.72	2.8	2.50	
30-45	1.88	4.94	29.18	8.19	55.81	1.8	2.51	
BOHINJSKO JEZERO - Core 5 B:								
0-5	24.19	9.88*	20.70*	10.00*	35.23	8.1	2.63	
5-10	12.78	10.02*	21.09*	16.79*	39.32	4.8	2.61	
10-15	18.31	12.00	15.50	9.02	45.17	3.6	2.53	
15-20	19.26	16.02	18.40	3.22	43.10	7.0	2.61	
20-25	19.26	14.45	18.50	4.78	43.01	6.0	2.63	
25-30	10.00	17.97	17.35	11.52	43.16	3.7	2.58	
30-35	19.08	16.52	17.43	4.02	42.95	6.4	2.61	
35-40	4.24	8.31	27.07	7.00	53.38	1.9	2.58	
40-45	7.64	18.61	19.22	4.71	49.82	2.0	2.54	

Data obtained by the Andreasen-Börner sedimentation vessel

5. Pollen contents in sediments from Lakes Bled and Bohinj

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Samples for pollen analysis have been taken and analyzed from the cores BL-15B and BH-5B at an interval of 5 cm.

The main purpose of this investigation has been to gather some information about the paleoecology of the surroundings of the lakes and about the age of the sediments on the base of well known stages of vegetational development or special plant indicators of man's activity (A. Šercelj, 1971, 1975). Complete pollen analyses reveal about 50 taxa represented in different spectra. Since it is evident that not all plant taxa have equal meaning in interpreting vegetational history and hence stratigraphy, only the characteristic ones have been picked out (figs. 10 and 11). As they are different from each other, the explanations of each are given separately for the most important points.

BOHINJ BH-5B

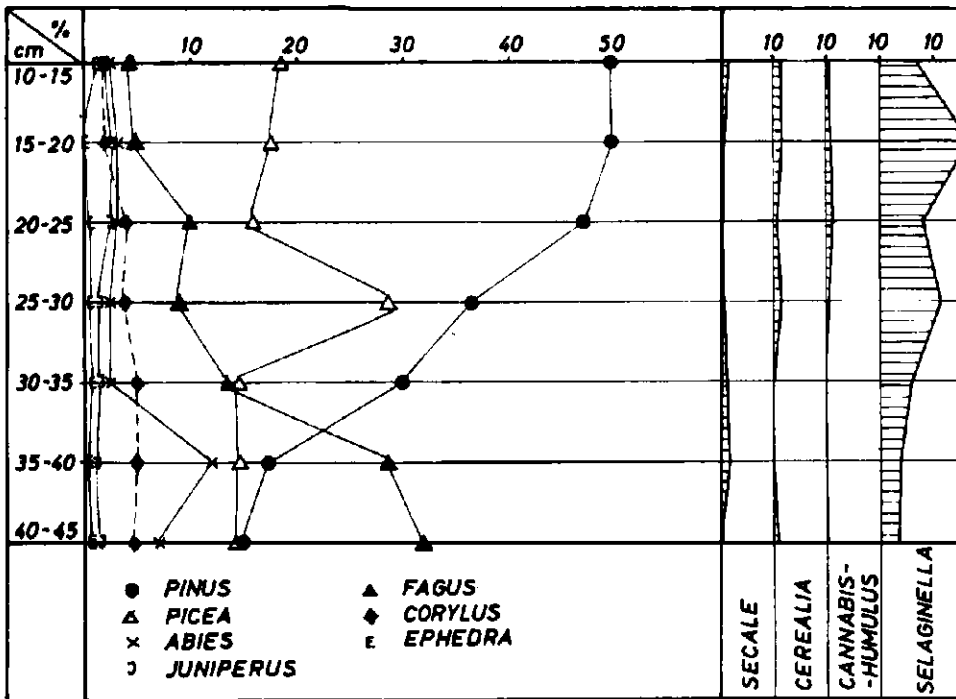


Fig. 10. Pollen diagram of the sediment core BH-5B from Lake Bohinj

5.1. Bohinj BH-5B

The pollen curves of various forest trees follow different, partly opposite courses. But the most characteristic ones are those of *Pinus*, *Fagus* and *Picea*. The *Pinus* curve increases from an initial 15% to 50% on the top of the diagram, meanwhile the *Fagus* curve decreases in the same direction from 30% to 5% tree pollen. This peculiar change in vegetation is certainly not due to climatic events. Originally this valley had been covered by woods of *Abieti-Fagetum* (depth 45—35 cm), and on the mountain slopes intermixed with fairly high percentages of *Picea*. Then cutting of beech forests for burning charcoal, used in melting iron, started, especially during the Middle Ages. This could be the point of decline of *Fagus* pollen curve. On the contrary, continuous rise of the pollen curve of *Pinus* suggests that the destroying of deciduous forest has continued by grazing, especially in the subalpine belt.

The presence of *Secale* pollen, other cereals, and of *Cannabis-Humulus*, though in low percentages, also indicates that the radical change in vegetation is due to extensive land use for farming.

Selaginella selaginoides, the subarctic small fern, is present in relatively high percentages, though it did not thrive in the valley, but on the deforested mountain plateaus.

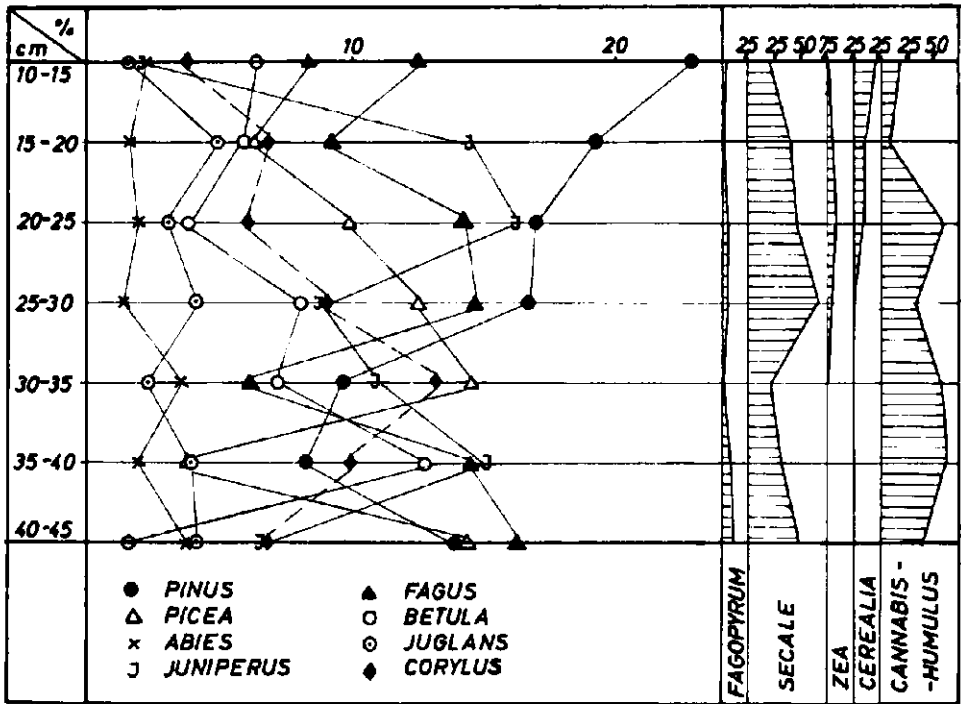


Fig. 11. Pollen diagram of the sediment core BL-15B from Lake Bled

5.2. Bled BL-15B

The surroundings of Bled is a more opened landscape and there are no steep mountain slopes within the immediate neighbourhood. As a result the forest picture, as shown by the pollen diagram, is a little more intricate.

The pollen diagram reflects two declines of the natural forest (*Abieti-Fagetum*). The curve of *Fagus* shows two oscillations which are not very pronounced, with a decreasing tendency. Opposite to that of *Fagus*, the *Pinus* curve rises up to 23%. *Pinus* forests are to be regarded here as a pioneer vegetation on previously highly degraded soils. More indicative about the general aspect of landscape may be the unusually high percentage of *Juniperus* (juniper) pollen in the middle of the diagram. This indicates heavy sheep grazing, juniper being the only resistant element.

Direct indicators of man's activity are: *Juglans* (walnuttree), present with relatively high pollen values, obviously having been much cultivated here.

High pollen values of *Secale* and other cereals, besides *Humulus* and *Cannabis*, which theoretically could have been cultivated here since eneolithic times, suggest that this country had been densely settled.

There are two more cultivated plants that yield us also a reliable dating: *Fagopyrum* and *Zea*. Buckwheat has been introduced to Europe from Asia and reached this country about 1490, and corn has been brought to Spain in 1519. There is no doubt that this profile cannot be older than 500 years, but could be younger.