

TABLE OF CONTENTS

FOREWORD OF THE SERIES EDITOR	11
PREFACE	13
THE KIEL GRADUATE SCHOOL “HUMAN DEVELOPMENT IN LANDSCAPES” . . .	14
PREFACE OF THE AUTHOR	17
ACKNOWLEDGEMENTS	19
ABSTRACTS	21
English abstract	21
German abstract	22
Italian abstract	23
LIST OF FIGURES	25
LIST OF TABLES	27
1 INTRODUCTION	29
1.1 Research questions in a historical perspective	29
1.1.1 Search for answers on the field: a matter of archives	30
1.2 Outline of the present study	30
1.2.1 The palaeo-environmental investigation at the site of Fondo Paviani	31
1.2.2 The palaeo-environmental investigation at the lake of Castellaro Lagusello	32
2 THE GEOGRAPHICAL SETTING	33
2.1 “A fragmented labyrinth”	33
2.2 Geomorphological setting	35
2.2.1 The Valli Grandi Veronesi area	36
2.2.2 The southern moraines of the Lake Garda	37
2.3 Modern vegetation: the phytogeographic context	37
2.4 Climate	42
2.4.1 Modern climate	42
2.4.2 Climate in the 2 nd millennium BC: from a wide to a close perspective	43
2.4.3 The climate of the Mid- and Late Holocene	43
2.4.4 Millennial climate trends versus decadal to multi-century climate changes and regional variability	45
2.4.5 Late Bronze Age multi-century drought in the Mediterranean	47

3 ARCHAEOLOGICAL AND ARCHAEOBOTANICAL FRAMES	51
3.1 Before the Bronze Age	51
3.1.1 Neolithic (ca. 5500–3500 BC)	51
3.1.2 Copper Age (ca. 3500–2200 BC)	52
3.2 The Bronze Age	52
3.2.1 Early Bronze Age (ca. 2200–1650 BC)	53
3.2.2 Middle Bronze Age (ca. 1650–1450 BC)	54
3.2.3 Recent Bronze Age (ca. 1350–1170 BC)	55
3.2.4 Final Bronze Age (ca. 1170–950 BC)	57
3.3 Archaeobotanical records from Bronze Age sites in Northern Italy	57
3.3.1 Brief history of archaeobotanical studies in Northern Italy	57
3.3.2 Survey of previous archaeobotanical studies	58
3.3.3 Subsistence economy and landscape development	69
4 TWO STUDY SITES BETWEEN NATURAL AND ARCHAEOLOGICAL ARCHIVES	75
4.1 Fondo Paviani	75
4.1.1 A long-lasting terramara: history of research and archaeological phases	75
4.1.2 Profile EW and the sequences FP10 and FP11	77
4.1.3 Description of the stratigraphy in Profile EW	79
4.2 The lake of Castellaro Lagusello (Mantua)	84
4.2.1 A natural and archaeological hotspot for Bronze Age in Northern Italy: area of study and history of the studies	84
4.2.2 The core-sequence CL11	87
5 METHODS	93
5.1 Botanical microfossils	93
5.1.1 Analysis of organic microfossils: pollen and non-pollen palynomorphs	93
5.1.2 Analysis of silica microfossils: phytoliths, sponge spicules and diatoms	94
5.1.3 Macrocharcoal analysis	103
5.2 Sedimentary proxies	103
5.2.1 Grain size analysis	103
5.2.2 Loss on ignition	103
5.3 Taphonomy and site types in palaeo-environmental research	111
5.3.1 Taphonomy, record formation and conservation	111
5.3.2 A variety of botanical microfossils	111
5.4 The distinction between on-site, near-site and off-site contexts	113
5.4.1 Different sources and perspectives for the microfossil assemblages	114
5.4.2 On-site pre- and post-depositional processes	116
6 RESULTS	119
6.1 Fondo Paviani	119
6.1.1 Chronology of the sequences from the enclosures of Fondo Paviani	119
6.1.2 Organic microfossils: pollen and non-pollen palynomorphs	128
6.1.3 Silica microfossils: phytoliths, sponge spicules and diatoms	140
6.1.4 Grain Size Analysis	150
6.1.5 Loss on Ignition	151

6.2 Castellaro Lagusello	154
6.2.1 Chronology of the core-sequence CL11 from Castellaro Lagusello lakeshore	154
6.2.2 Pollen, non-pollen palynomorphs and microcharcoal records	157
6.2.3 Loss on ignition	166
7 DISCUSSION	169
7.1 Palaeo-environmental investigations at Fondo Paviani (Verona): the study of the hydrological structures	169
7.1.1. Palaeo-environmental research in the floodplain	169
7.1.2 The small ditch FP10	169
7.1.3 The landscape surrounding the site of Fondo Paviani from the Recent Bronze Age to the Early Iron Age through a near-site archive	173
7.1.4 The phytolith record from the swamp in the palaeo-valley	178
7.1.5 Insight on key-results	180
7.2 Vegetation history during the Copper Age and the Bronze Age at Castellaro Lagusello lake (Mantua)	185
7.2.1 A lacustrine sequence between Garda region and Po Plain	185
7.2.2. The contribution of the record from Castellaro Lagusello for the vegetation history of the Garda Lake region	195
8 CONCLUSIONS	197
8.1 Landscape changes and social dynamics at the end of the “Palafitticolo-Terra maricola Culture”	197
8.2 A matter of archives (...or archives matter)	200
8.3 Conclusive remarks	202
REFERENCES	204
APPENDIX A	220
APPENDIX B	229