

Contents

1. Introduction.....	2
1.1. Definition of conservation approaches for plant genetic resources: theoretical background.....	2
1.2. Systematics of Cucurbitaceae	7
1.3. Cucurbitaceae in phytochoria and agro-ecosystems of West Africa	8
2. Rationales, objectives and sampling strategies	9
2.1. Rationales and problem definitions	9
2.2. Objectives, hypotheses, sampling strategies	13
3. Results	15
3.1. Phylogenetic re-evaluation of the tribe Benincaseae (Cucurbitaceae) by nrDNA ITS sequences	15
3.2. Flow cytometric analysis in <i>Lagenaria siceraria</i> (Cucurbitaceae) indicates correlation of genome size with usage types and growing elevation	32
3.3. Genetic differentiation and phylogenetic analysis of African and Asian <i>Lagenaria siceraria</i> (Cucurbitaceae): definition of the subspecies <i>egusi</i> in West Africa	45
3.4. Phenetic analysis of wild populations of <i>Momordica charantia</i> L. (Cucurbitaceae) in West Africa and inference of the definition of the new subspecies <i>macroloba</i> Achigan-Dako & Blattner	59
3.5. Phylogeography, phylogeny, and ecoclimatic niche modelling in West African <i>Momordica charantia</i> (Cucurbitaceae): differentiation across ecological gradients	77
4. Discussion	91
5. Abstract	94
6. Zusammenfassung	95
7. References	96
8. Abbreviations, definitions and captions	109
8.1. Abbreviations and definition of terms used	109
8.2. Figure captions	109
8.3. Table captions	111
9. Curriculum vitae	114
10. Contribution to the papers	118
11. Erklärung	120
12. Acknowledgements	121