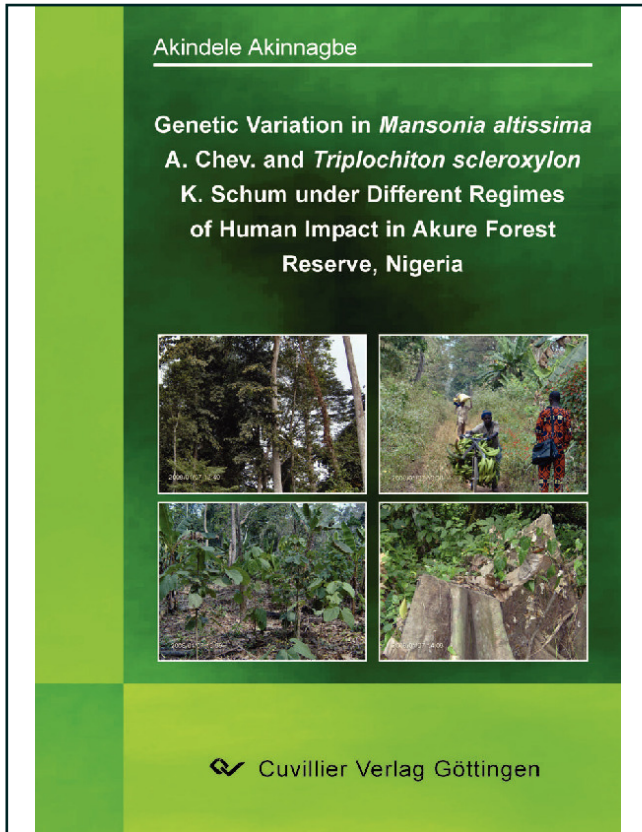




Akindele Akinnagbe (Autor)

**Genetic Variation in *Mansonia altissima* A. Chev. And  
*Triplochiton scleroxylon* K. Schum under Different  
Regimes of Human Impact in Akure Forest Reserve,  
Nigeria**



<https://cuvillier.de/de/shop/publications/1325>

Copyright:

Cuvillier Verlag, Inhaberin Annette Jentsch-Cuvillier, Nonnenstieg 8, 37075 Göttingen,  
Germany

Telefon: +49 (0)551 54724-0, E-Mail: [info@cuvillier.de](mailto:info@cuvillier.de), Website: <https://cuvillier.de>

## TABLE OF CONTENT

ACKNOWLEDGEMENTS .....	3
TABLE OF CONTENT .....	5
1 INTRODUCTION.....	9
1.1 Background of the study .....	11
1.2 Objectives of the study .....	11
1.3 Hypotheses .....	11
1.4 The Study Area.....	12
1.4.1 <i>Human Activities in the Study Area</i> .....	14
1.5 Amplified fragment length polymorphisms (AFLPs) .....	17
2 GENETIC DIVERSITY IN <i>Mansonia altissima</i> A. Chev. AS INFLUENCED BY HUMAN IMPACT.....	21
2.1 Introduction .....	21
2.2 The Species - <i>Mansonia altissima</i> .....	22
2.2.1 <i>Taxonomy and Ecology</i> .....	22
2.2.2 <i>Silvicultural Characteristics and Reproductive Biology of Mansonia altissima</i> .....	24
2.2.3 <i>Uses</i> .....	24
2.3 Materials and Methods .....	24
2.3.1 <i>Collection of Plant Material</i> .....	24
2.3.2 <i>Preservation of Leave Samples Before DNA Isolation</i> .....	26
2.3.3 <i>DNA Extraction</i> .....	27
2.3.4 <i>AFLP Analyses</i> .....	27
2.3.5 <i>Data Analyses</i> .....	29
2.4 Results .....	30
2.4.1 <i>Spatial Distribution of M. altissima</i> .....	30
2.4.2 <i>Genetic Diversity within Populations</i> .....	32
2.4.3 <i>Genetic Structure</i> .....	33
2.4.4 <i>Spatial Genetic Structure</i> .....	34
2.5 Discussion .....	36
2.5.1 <i>Human Impact and Genetic Diversity in M. altissima</i> .....	36
2.5.2 <i>Human Impact and Spatial Genetic Structure in M. altissima</i> .....	39
2.6 Implication for Conservation of Genetic Diversity.....	40
3 EFFECT OF HUMAN IMPACT ON GENETIC DIVERSITY IN <i>Triplochiton</i> <i>scleroxylon</i> K. Schum .....	41
3.1 Introduction .....	41

3.2	The Species – <i>Triplochiton scleroxylon</i> .....	42
3.2.1	<i>Botanical Description</i> .....	42
3.2.2	<i>Ecology</i> .....	44
3.2.3	<i>Reproductive Biology</i> .....	45
3.2.4	<i>Uses</i> .....	46
3.2.5	<i>Conservation Status</i> .....	46
3.3	Materials and Methods .....	46
3.3.1	<i>Collection of Plant Material</i> .....	46
3.3.2	<i>DNA Isolation</i> .....	48
3.3.3	<i>AFLP Analyses</i> .....	49
3.3.4	<i>Data Analyses</i> .....	50
3.4	Results .....	52
3.5	Discussion .....	57
3.5.1	<i>Human Impact and Genetic Diversity in T. scleroxylon</i> .....	57
3.5.2	<i>Genetic Differentiation among Sampled Populations</i> .....	58
3.5.3	<i>Spatial Genetic Structure in T. scleroxylon</i> .....	59
3.6	Implication for Conservation of Genetic Diversity .....	60
4	COMPARING GENETIC DIVERSITY IN <i>Mansonia altissima</i> A. Chev. AND <i>Triplochiton scleroxylon</i> K. Schum .....	61
4.1	Introduction .....	61
4.2	Materials and Methods .....	64
4.2.1	<i>Collection of Plant Material</i> .....	64
4.2.2	<i>DNA Isolation</i> .....	66
4.2.3	<i>AFLP Analyses</i> .....	66
4.2.4	<i>Data Analyses</i> .....	67
4.3	Results .....	68
4.4	Discussion .....	70
4.5	Conclusion.....	72
5	GENERAL DISCUSSION AND CONCLUSION .....	75
	REFERENCES.....	77
	ABSTRACT .....	89
	ZUSAMMENFASSUNG.....	91
	APPENDICES.....	95
	Appendix 1: Sequences of adaptors and primers used in this study .....	95
	Appendix 2: Protocol of AFLP .....	95

Appendix 3: Frequency of AFLP fragments in <i>M. altissima</i> populations .....	98
Appendix 4: Frequency of AFLP fragments in <i>T. scleroxylon</i> populations.....	107