



Universiteit  
Leiden  
The Netherlands

## **Sex ratio variation and sex determination in *Urtica dioica***

Glawe, G.A.

### **Citation**

Glawe, G. A. (2006, October 5). *Sex ratio variation and sex determination in Urtica dioica*. Retrieved from <https://hdl.handle.net/1887/4583>

Version: Corrected Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/4583>

**Note:** To cite this publication please use the final published version (if applicable).

**Sex ratio variation and sex  
determination in *Urtica dioica***

Sex ratio variation and sex determination in *Urtica dioica*  
THESIS LEIDEN UNIVERSITY

© 2006 Grit Glawe

ISBN-10: 90-6464-026-2

ISBN-13: 978-90-6464-026-1

*Cover design:* Martin Brittijn

*Photographs:* Grit Glawe

*Lay-out:* Jan Bruin ([www.bred.nl](http://www.bred.nl))

Printed by Ponsen & Looijen, Wageningen, The Netherlands

# **Sex ratio variation and sex determination in *Urtica dioica***

PROEFSCHRIFT

ter verkrijging van  
de graad van Doctor aan de Universiteit Leiden,  
op gezag van de Rector Magnificus Dr. D.D. Breimer,  
hoogleraar in de faculteit der Wiskunde en  
Natuurwetenschappen en die der Geneeskunde,  
volgens besluit van het College voor Promoties  
te verdedigen op donderdag 5 oktober 2006  
klokke 13.45 uur

door

Grit Anja Glawe

geboren te Erfurt, Duitsland  
in 1976

PROMOTIECOMMISSIE

*Promotor*

Prof. Dr. E. van der Meijden

*Co-promotor*

Dr. T.J. de Jong

*Referent*

Prof. Dr. L.W. Beukeboom

*Overige leden*

Dr. N.M. van Dam

Prof. Dr. R. Hoekstra

Prof. Dr. P.J.J. Hooykaas

Prof. Dr. E. Smets

# Contents

CHAPTER 1	General introduction	7
CHAPTER 2	Heritable variation in seed sex ratio of the stinging nettle ( <i>Urtica dioica</i> ) <i>Plant Biology 7: 190-194 (2005)</i>	21
CHAPTER 3	Sex ratio and clonal growth in the stinging nettle ( <i>Urtica dioica</i> )	33
CHAPTER 4	Environmental conditions affect sex expression in monoecious, but not in male and female plants of <i>Urtica dioica</i> <i>Sexual Plant Reproduction 17: 253-260 (2005)</i>	47
CHAPTER 5	The genetic basis of sex determination in sub-dioecious <i>Urtica dioica</i>	63
CHAPTER 6	Genetic mapping of sex-linked markers in <i>Urtica dioica</i>	91
CHAPTER 7	Inheritance of progeny sex ratio in <i>Urtica dioica</i>	105
CHAPTER 8	Summary and conclusions	121
	References	127
	Nederlandse samenvatting	139
	Deutsche Zusammenfassung	145
	Epilogue	155
	Curriculum vitae	157
	Publications	158

