



*Diversity and population structure of *Clivia miniata*
Lindl. (Amaryllidaceae):
Evidence from molecular genetics and ecology*

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*Opgedra aan
My Ouers, Suster & Vriende*



Aan God die dank



UNIVERSITEIT VAN PRETORIA
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**Diversity and population structure of *Clivia
miniata* Lindl. (Amaryllidaceae):
Evidence from molecular genetics and ecology**

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ABBREVIATIONS

A	Adenosine
ABI	Applied Biosystems Incorporated
AC	Albany Centre
AFLP	Amplified fragment length polymorphism
APS	Ammonium persulfate
AUSS	Australian dollars
B	Cytosine, Guanosine or Thymine
BC	Barberton Centre
BMM	Bearded Man Mountain
bp	Base pairs
BRU	Broedershoek farm
C	Cytosine
CFR	Cape Floristic Region
cpDNA	Chloroplast DNA
CR	Critically endangered
CTAB	Cetyltrimethylammonium bromide
D	Adenosine, Guanosine or Thymine
ddH ₂ O	Double-distilled water
DMSO	Dimethylsulfoxide
DNA	Deoxyribonucleic acid
dNTPs	Deoxyribonucleotides
DON	Donkeni
€	Euro
EDTA	Ethylenediaminetetraacetic acid
EN	Endangered
EtBr	Ethidium bromide
G	Guanosine
g/l	Grams per litre
H	Adenosine, Cytosine, or Thymine



HCl	Hydrochloric acid
HOW	Howick Falls
ICNCP	International Code of Nomenclature for Cultivated Plants
IPTG	Isopropylthio- β -D-galactoside
ISSR	Inter-simple sequence repeat
ITS	Internal transcribed spacer
IUCN	International Union for the Conservation of Nature
KAR	Karkloof
kb	Kilobases (=1 000 basepairs)
KCl	Potassium chloride
KEI	Kei River Mouth
KEN	Kentani Area
KOE	Koek Koek River
KZN	KwaZulu-Natal
LB	Luria-Bertani medium
LEB	Lebombo Mountains
M	Molar
m	Metre
m ²	Square metre
MBA	Mbashe
MgCl ₂	Magnesium chloride
MgSO ₄	Magnesium sulphate
min	Minutes
ml	Millilitre
mM	Millimolar
mm	Millimetres
MPB	Mpumalanga Parks Board
MPR	Maputaland-Pondoland Region
MZA	Mzamba River
N	Any base
NaCl	Sodium chloride



NBI	National Botanical Institute
ng	Nanograms
ng/ μ l	Nanograms per microlitre
NGO	Ngoye Forest
NQO	Nqobara River
NTO	Ntomeni Forest
°	Degree
°C	Degree Celsius
ORI	Oribi Gorge
PAGE	Polyacrylamide gel electrophoresis
PC	Pondoland Centre
PCR	Polymerase chain reaction
PCR-RFLP	Polymerase chain reaction restriction fragment length polymorphism
pers. comm.	Personal communication
pmol	Picomole
pmol/ μ l	Picomole per microlitre
PRE	National Herbarium, Pretoria
PRECIS	Pretoria (PRE) Computerised Information System
PRU	H.G.W.J. Schweickerdt Herbarium
PSJ	Port St Johns
QOR	Qora
R	Rand
RAMs	Random amplified microsatellites
RAPDs	Random amplified polymorphic DNAs
RFLP	Restriction fragment length polymorphism
rpm	Revolutions per minute
s	Second
SAMPL	Selectively amplified microsatellite polymorphic locus
SC	Soutpansberg Centre
SDS	Sodium dodecyl sulphate
SSM	Slip-strand mispairing

SSRs	Simple sequence repeats
STMs	Sequence-tagged microsatellites
STRs	Short tandem repeats
T	Thymine
TAE	Tris-acetate-EDTA buffer
TBE	Tris-borate-EDTA buffer
TEMED	N,N,N',N'-tetramethylene-ethylenediamine
T _m	Melting temperature
U	Unit: One unit of <i>Taq</i> polymerase enzyme is defined as the amount of enzyme that will incorporate 10 nmoles of dNTPs into acid insoluble material per 30 minutes at 74°C under standard analytical conditions.
UCO	Unequal cross-over
µg/ml	Microgram per millilitre
µl	Microlitre
µM	Micromolar
UMT	Umtamvuna Nature Reserve
US\$	United States of America dollars
UV	Ultraviolet
V	Degenerate primer sequences: Adenosine, Cytosine or Guanosine
V/cm	Volt per centimetre
v/v	Volume per volume
var.	Variety
VU	Vulnerable
w/v	Weight per volume
WC	Wolkberg Centre
X-Gal	5-bromo-4-chloro-3-indolyl-β-D-galactoside