

An expedition to Kwazulu-Natal (South Africa) to collect  
*Begonia sutherlandii*.

5-26 February 2001.

A report for the Davies Expedition Fund  
by Mark Hughes.

## 1. Aims of the expedition.

The genus *Begonia* occurs throughout the tropics, and contains over 1400 species. Studies of such large genera, from the phylogenetic to the population level, can give insight into the processes that generate plant biodiversity. Several aspects of the genus *Begonia* suggest that restricted capability for gene flow through pollen and seed dispersal has been important in generating the biodiversity the genus contains. These are:

- (i) Its size. *Begonia* has over 1400 species, yet without any obvious major innovations – the majority of *Begonia* are ecologically similar.
- (ii) Monophyletic groups in *Begonia* show strongly restricted geographical distributions, suggesting repeated allopatric speciation events.
- (iii) The level of narrow range endemism of *Begonia* is very high, suggesting species ranges are dispersal limited.
- (iv) Widespread species are rare, and tend to show marked morphological variation, suggesting low intra-specific gene flow over moderate to large scales.

This purpose of this expedition was to collect population level samples of *Begonia sutherlandii* from throughout Kwazulu-Natal in order to examine the population structure of a widespread *Begonia* species. *B. sutherlandii* was chosen because of its interesting distribution in South Africa, where it occurs only in relict forest patches. This patchy distribution pattern presents an ideal system for studying gene flow over a variety of distances.

During my three week stay in Kwazulu-Natal, I was able to collect leaf samples from 300 *B. sutherlandii* plants, along with voucher specimens and seed, from localities distributed throughout the province. The expedition was thus very successful, and has provided ample material for research into population structure of *Begonia*.

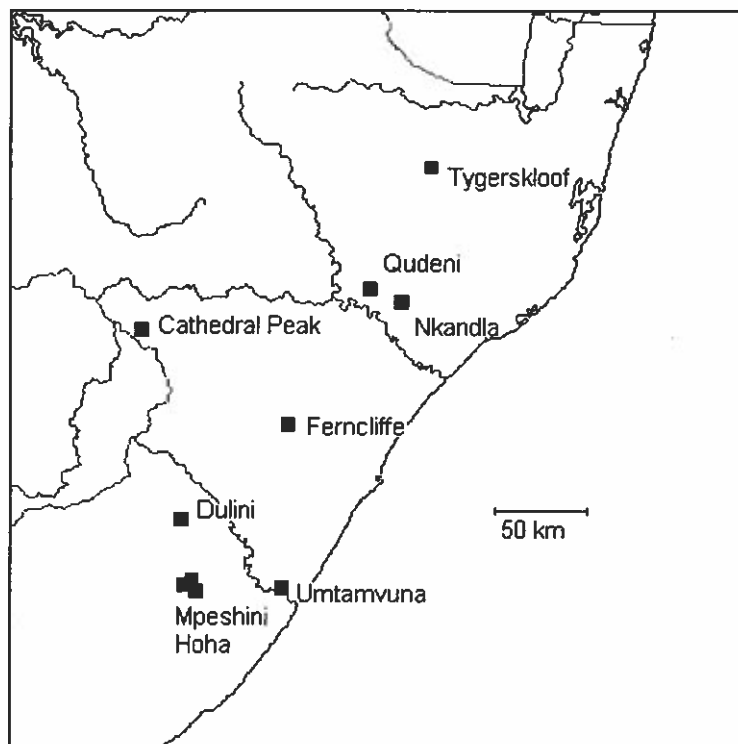
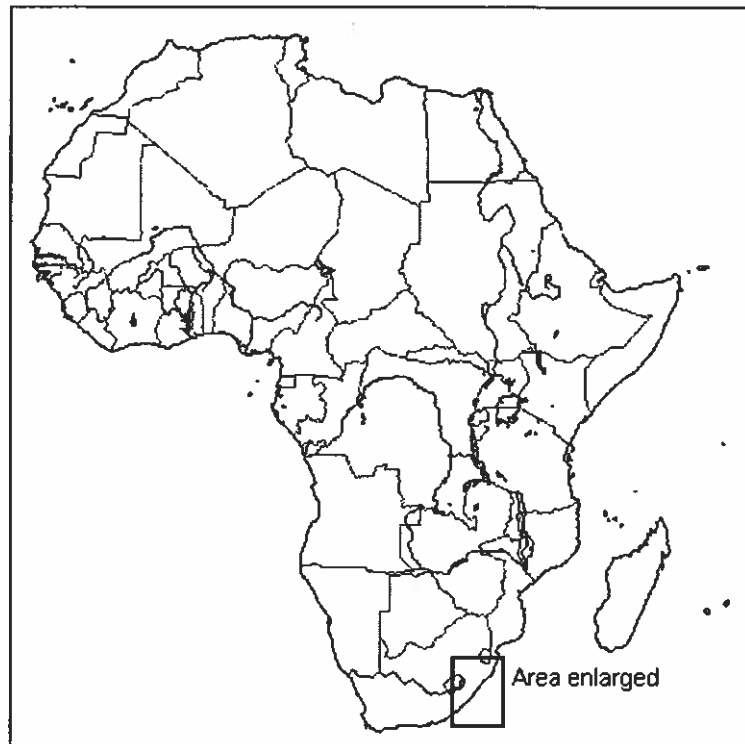
Illustrated overleaf: *Begonia sutherlandii* in Hoha Forest Reserve.



## 2. Itinerary

- 5<sup>th</sup> Feb.** Fly to Durban, travel by bus to Pietermaritzberg. Attempts to stay presentable in the 35 degree heat hampered due to loss of bag by South African Airlines.
- 6<sup>th</sup>-7<sup>th</sup> Feb.** Visit the University of Natal herbarium. Collect permits. Collecting in Ferncliffe Nature Reserve. Arrival of bag means personal hygiene can be attended to. Alarmed to discover my return flight date is one month later than I thought I had booked for. Rang travel agent.
- 8<sup>th</sup>-9<sup>th</sup> Feb.** Collecting in the Tygerskloof estate. Very long drive in very worn out hire car. Spent several long, wet and cold hours searching (unsuccessfully) for *Begonia* in montane forest patches and wading in freezing mountain streams, only to find several hundred plants growing by the side of the road 100m into return journey.
- 12<sup>th</sup> Feb.** Collecting in Rainbow Gorge, Cathedral Peak. Stunning Drakensberg scenery.
- 14<sup>th</sup> Feb.** Travel to Eshowe. Slight altication with silver Mercedes, luckily the paint on our car was softer.
- 15<sup>th</sup> Feb.** Collecting in Eshowe vicinity.
- 16<sup>th</sup> Feb.** Collecting in Nkandla Forest. Very impressive (and heavily guarded) reserve.
- 17<sup>th</sup> Feb.** Collecting in Qudeni Forest.
- 18<sup>th</sup> Feb.** Travel to Umtamvuna Nature Reserve, a beautiful thickly forested coastal ravine.
- 19<sup>th</sup> Feb.** Collecting in Umtamvuna.
- 20<sup>th</sup> Feb.** Collecting in Mpeshini Forest.
- 21<sup>st</sup> Feb.** Collecting in Dulini Forest.
- 22<sup>nd</sup> feb.** Collecting in Hoha Forest.
- 24<sup>th</sup> Feb.** Travel to Durban. Three nights in bland high rise hotel.
- 27<sup>th</sup> Feb.** Fly to Edinburgh.

### 3. Collecting localities.



Collecting localities in Kwazulu-Natal.

#### **4. Acknowledgments.**

This trip would not have been possible save for the generous financial support given by the Systematics Association, the Davies Expedition Fund, the Glasgow Natural History Society, and the William Dickson Travelling Fund.

Many people helped to provide me with locality information, transport, accomodation and company. I would especially like to thank (in no particular order): Tracy McLellan, Dirk Bellstedt, Michael Moeller, Trevor Edwards, Christina Potgeiter, Robert Scott-Shaw, Sharon Louw, Barry, Dennis Eckhart, Tony and Maggie Abbott, David Thomas and Pete Hollingsworth.

I am also very grateful to the M.L. MacIntyre Begonia Trust for sponsoring my PhD research.

## 5. Accounts.

### OUTGOING

<b>Transport</b>	£
Flight	619 (Edinburgh - Durban)
Car Hire	80 (Pietermaritzberg - Drakensberg)
Car Hire	160 (Durban - Port Edward, incl. Cell phone hire)
4WD Hire	55 (Umtamvuna - Transkei)
Taxis	35
Buses	8

### Accomodation

Pietermaritzberg	80 (8 nights University of Natal)
Eshowe	40 (2 nights)
Umtamvuna	25 (5 nights Clearwater Farm)
Durban	145 (3 nights Durban)

### Misc

Film & processing	35
Per day expenses	345 (23 days, £15 per day)
Maps and field guides	30

**TOTAL OUTGOING**                      **1657**

### INCOME

Systematics Association	750
Davis Expedition Fund	300
Glasgow Natural History Society	250
William Dickson Travelling Fund	100

**TOTAL INCOME**                      **1400**

**SHORTFALL**                              **257** (=Personal contribution)

## 6. Voucher specimen labels

*Begonia sutherlandii.* Date: 07/02/01  
Collector: Mark Hughes Number: MH1008  
Locality: Ferncliffe nature reserve. Abundant  
on steep bank next to path and  
on banks next to waterfall  
S 29°32.831'  
E 30°20.407'  
Alt. (m): 700

*Begonia geranioides.* Date: 07/02/01  
Collector: Mark Hughes Number: MH1009  
Locality: Ferncliffe nature reserve.  
Growing on moss covered rocks on  
steep bank next to path  
S 29°32.831'  
E 30°20.407'  
Alt. (m): 700

*Begonia sutherlandii.* Date: 07/02/01  
Collector: Mark Hughes Number: MH1010  
Locality: Vertical face next to road on way  
out from Tygerskloof estate guest  
house  
S 27°50.737'  
E 31°18.842'  
Alt. (m): 1300

*Begonia sutherlandii.* Date: 07/02/01  
Collector: Mark Hughes Number: MH1011  
Locality: Cathedral Peak, Rainbow Gorge walk.  
Growing on steep bank next to path.  
S 28°57.610'  
E 29°13.576'  
Alt. (m): 1500

*Begonia sutherlandii.* Date: 07/02/01  
Collector: Mark Hughes Number: MH1012  
Locality: Nkandla Forest Reserve.  
Growing on steep south facing  
bank next to road.  
S 28°43.710'  
E 31°08.123'  
Alt. (m): 1200

*Begonia sutherlandii.* Date: 07/02/01  
Collector: Mark Hughes Number: MH1013  
Locality: Qudeni Forest. Growing on SSW  
facing bank by roadside  
S 28°38.950  
E 30°54.221  
Alt. (m): 1200

*Begonia sutherlandii.* Date: 07/02/01  
Collector: Mark Hughes Number: MH1014  
Locality: Umtamvuna Nature Reserve.  
Growing on vertical seep face next  
to river at bottom of gorge.  
S 31°00.125  
E 30°10.385  
Alt. (m): 150

*Begonia sutherlandii.* Date: 07/02/01  
Collector: Mark Hughes Number: MH1015  
Locality: Kokstad vicinity. Rocky stream bank  
in recently felled area.  
S 30°35.126'  
E 29°38.849'  
Alt. (m): 900

*Begonia sutherlandii.* Date: 07/02/01  
Collector: Mark Hughes Number: MH1016  
Locality: Manzumnyama river. Growing on  
mossy boulders near stream in  
forest patch in wet gully.  
S 30°36.692'  
E 29°37.745'  
Alt. (m): 1000

*Begonia sutherlandii.* Date: 07/02/01  
Collector: Mark Hughes Number: MH1017  
Locality: Mpeshini Forest. Shaded vertical  
bank next to track.  
S 30°37.257'  
E 29°38.863'  
Alt. (m): 1000

*Begonia sutherlandii.* Date: 07/02/01  
Collector: Mark Hughes Number: MH1018  
Locality: Nr Dulini Forest Station.  
Growing on steep sides of stream  
bank.  
S 30°11.203'  
E 29°33.368'  
Alt. (m): 900

*Begonia sutherlandii.* Date: 07/02/01  
Collector: Mark Hughes Number: MH1019  
Locality: Hoha Forest Reserve  
Growing on very steep bank next to  
river in *Podocarpus* forest  
S 30°07.708  
E 29°34.498'  
Alt. (m): 1250