



DARWIN INITIATIVE

APPLICATION FOR GRANT FOR ROUND 11 COMPETITION: STAGE 2

Please read the Guidance Notes before completing this form. Give a full answer to each section; applications will be considered on the basis of information submitted on this form. Please do not cross-refer to information in separate documents except where invited on the form. The space provided indicates the level of detail required but you may provide additional information on a separate A4 sheet if necessary. Do not reduce the font size below 10pt or the paragraph spacing.

162/12/008

1. Name and address of organisation

Royal Botanic Gardens, Kew

2. Project title (not exceeding 10 words)

DNA banking, phylogeny and conservation of the South African flora

3. Principals in project. Please provide a one page CV for each of these named individuals.

Details	Project leader	Other UK personnel (if working more than 50% of their time on project)	Main project partner or co-ordinator in host country
Surname	Savolainen		Reeves
Forename(s)	Vincent		Gail
Post held	Plant Molecular Systematist		Head of Molecular Systematics
Institution (if different to above)			National Botanical Institute (NBI) Kirstenbosch
Department	Jodrell Laboratory, Molecular Systematics Section		Compton Herbarium
Telephone			
Fax			
Email			

4. Describe briefly the aims, activities and achievements of your organisation. (Large institutions please note that this should describe your unit or department)

Aims

The mission of the Royal Botanic Gardens, Kew, agreed by its Board of Trustees and DEFRA, is to enable better management of the Earth's environment by increasing knowledge on the plant and fungal kingdoms - the basis of life on earth. The Jodrell and its Molecular Systematics Section are particularly devoted to demonstrate Kew's excellence in

Activities

Kew's statutory obligations are set out in the National Heritage Act, 1983. This requires Kew to carry out plant research, disseminate information, maintain the national reference collections and to provide public access and education. The Jodrell dept is involved in carrying out research in plant and fungal systematics, conservation, chemistry, anatomy, economics and genetics

Achievements

Kew is one of the leading world institutes in plant and fungal diversity. In the year 2001/2, its scientists produced 392 scientific publications incl. 22 of highest scientific impact. Access to collection included 20,000 visitor days, 5 millions hits on its web site, and 1.3 millions visits by the public. Kew work in partnership with 40 countries, incl. development of

5. Has your organisation received funding under the Initiative before? If so, please give details.

The Royal Botanic Gardens, Kew, has received 12 grants from the Darwin Initiative since its commencement

6. Please list the overseas partners that will be involved in the project and explain their role and responsibilities in the project. The extent of their involvement at all stages in the project should be detailed, including in project development. Please provide written evidence of this partnership.

Prof. Gideon Smith (Director of Research, NBI): Overseas Project Co-Leader

Dr Gail Reeves (Head of Molecular Systematics, NBI Kirstenbosch, Cape Town): Overseas Project Leader;

Dr John Manning (Botanist, NBI Kirstenbosch, Cape Town): Plant Collection and Taxonomic Identification Leader;

Dr Maureen Wolfson (Head of Access and Benefit-Sharing, NBI): Overseas CBD Implementation Co-ordinator;

Ms Ferozah Conrad (Research Assistant, NBI Kirstenbosch, Cape Town): Overseas Project Co-Leader;

Dr Michelle van der Bank (Lecturer, Rand Afrikaans University, Johannesburg), Dr Terry Hedersen (Ass. Prof., University of Cape Town), Dr Leanne Dreyer (Lecturer, University of Stellenbosch): Student Supervisors;

Ms Annelise Le Roux (Scientific Services Section, Western Cape Nature Conservation): Nature Conservation liaison on policy and implementation issues.

Sex ratio 6 females : 3 males

7. What steps have been taken to (a) engage at all appropriate levels within the host country partner organisations to ensure full support for the project and its outcomes; and (b) ensure the benefits of the project continue despite staff changes in these organisations?

The NBI has a national government mandate to be the preferred source of information pertaining to the botanical diversity in South Africa including biodiversity policy and planning. In light of this the Director of Research gives his full support to this initiative. It is acknowledged by the NBI's academic partners at University level that it is appropriate for the NBI to be curators of the proposed DNA bank. In addition South African Nature Conservation authorities recognise the pressing need for such a facility particularly with regard to South Africa's obligations towards fulfilling the requirements of the CBD. Therefore they are overseas partners in the project. To ensure continuation of the project despite staff changes, three overseas project leaders have been named from the NBI. A memorandum of agreement between Kew and NBI will be signed if Darwin funds this project, incl. re. support by NBI of the DNA bank manager post after the Darwin funding period.

8. What other consultation or co-operation will take place or has taken place already with other stakeholders such as local communities. Please include any contact with the government of the host country not already provided.

As the primary permitting authority in South Africa, the Nature Conservation board are the second major stakeholder with the NBI in this initiative. They are fully supportive of the project and by having Nature Conservation on board, we will have access to their extension officers whose role is to interface with local communities and farmers to provide advice and awareness of conservation issues and sustainable use of their land and resources.

PROJECT DETAILS

9. Define the purpose (main objective) of the project in line with the logical framework.

The project aims to (i) archive in a DNA Bank the genetic material of at least one species from nearly all ca. 2200 South African flowering plant genera, of which 70% spp. are endemic; (ii) provide the necessary facility to extract DNA and preserve it appropriately, and to allow researchers to have access to plant DNA extracts to be used in applied and fundamental science; (iii) through collaboration with RBG Kew's CBD Unit which has considerable experience in the topic, to implement the necessary legal agreements for material transfer and benefit sharing of these genetic resources; (iv) train South African researchers and students, including those from disadvantaged communities, in high-profile biotechnologies; (v) produce a phylogenetic 'tree of life' of South African plant genera and identify areas of endemism and high priority for the conservation of biodiversity. This phylogenetic information will also enable more focused bioprospecting strategies to be adopted by the academic sector in their search for natural plant products (including those that are medicinally important).

10. Is this a new initiative or a development of existing work (funded through any source)?

Scientists from RBG Kew and from the National Botanical Institute in South Africa have been working together for many years and this has resulted in several joint projects, publications, and shared genetic resources. However, we now propose to take it a major step further by helping the creation of a DNA bank overseas.

11. How will the project assist the host country in its implementation of the Convention on Biological Diversity? Please make reference to the relevant article(s) of the CBD, thematic programmes and/or cross-cutting themes. Is any liaison proposed with the CBD national focal point in the host country? Further information about the CBD can be found on the Darwin website or CBD website.

The need for a national DNA bank is supported by the CBD which recognises national sovereignty over biological resources (preamble), and encourages management of ex-situ collections in the country of origin (article[A] 9). This DNA bank will benefit biodiversity research and South Africa by: (i) creating a comprehensive centralised in-country facility for DNA extraction and storage (A16); (ii) facilitating access to sensitive plant genetic material for research on evolution, conservation and sustainable use in line with the developing legal and policy framework in South Africa to build trust, set terms and access, and clarify the benefit-sharing expectations of South Africa and its research partners - a case study which could extend to all South African living organisms (A15&17); (iii) providing vital information on phylogenetic relationships on all plant genera; thereby assisting bioprospecting as well as identifying areas of high priority for in-situ conservation (A8,10,18; GTI & GSPC); (iv) capacity building in addition to training and job creation in the highly skilled field of biotechnology, thereby contributing to poverty alleviation (especially A12,16,18); (v) Relieving pressure on wild populations from repeated collections as DNA will be centrally available to researchers (A10). Genes will be sequenced from banked DNA extracts: this will allow studies of 'described genes of scientific or economic importance' (CBD annex 1.3), especially rbcL - the most important gene in photosynthesis.

12. How does the work meet a clearly identifiable biodiversity need or priority within the host country?

The Cape Floral Kingdom supports the richest temperate flora in the world, with 9,000 species of which around 70% are endemic. The species to genus ratio is one of the highest, even exceeding those of oceanic islands such as Hawaii and New Zealand. For this reason two globally recognized biodiversity hotspots have been identified within this Kingdom, namely the Succulent Karoo and the Cape Floristic Region. Despite considerable literature that has been produced on the subject, the reasons for this amazingly high level of biodiversity are not yet fully understood, and would benefit tremendously by interpretation from a phylogenetic perspective. By creating a DNA bank and discovering the evolutionary relationships of all flowering plant genera in South Africa, we will have both archived and provided the necessary tools for the long-term conservation of the host country's biodiversity. Owing to the enormous species-richness, and the occurrence of two biodiversity hotspots within its borders, Conservation International has designated South Africa as a global priority for conservation.

13. If relevant, please explain how the work will contribute to sustainable livelihoods in the host country

The project will hire one DNA bank manager for three years; this person will come from a previously disadvantaged community within South Africa and his/her post will be funded after the Darwin Initiative by the National Botanical Institute.

Several members of staff and students will be trained in biotechnologies thereby increasing their chance to continue in higher degrees or with employment.

The information gathered by the project could also enable more focused bioprospecting research.

14. What will be the impact of the work, and how will this be achieved? Please include details of how the project outputs will be disseminated and put into effect to achieve this impact.

With the help of Kew's Conventions and Policy Section and the National Botanical Institute in South Africa, the project will produce a manual documenting the steps taken to develop appropriate legal and policy tools for access and fair and equitable benefit-sharing, including standard documents for acquisition, supply and loan of material. This could be used as a tool for similar initiatives. In addition, once a year joint meetings will be organised to review progress in data production and management, prior to the publication of scientific discoveries in appropriate media (peer-reviewed journals or books). DNAs and related information, which will be housed jointly in NBI and Kew, will be available to the South African and international academic communities. An external website will provide user-friendly and easy access to DNA bank databases and standard policy documents.

15. How will the work leave a lasting legacy in the host country or region?

Once set up in the Molecular Laboratory at Kirstenbosch, the DNA bank will be a permanent archive of the South African flora. It is aimed to bank in total DNA of one representative per angiosperm genus during the course of this project. Subsequently the DNA bank should be extended to include all South African species since all the necessary training and infrastructure will have been achieved during the Darwin Initiative funding period. DNA and tissue banking may also be extended to all living organisms from this part of the world, and it will help to make museums and botanical gardens truly modern biodiversity institutes - able to meet broad scientific and societal needs using opportunities offered by the genetic era.

16. What steps have been taken to identify and address potential problems in achieving impact or legacy?

RBG Kew has housed a DNA bank for the past decade and therefore has overcome any potential technical problems relating to DNA extraction, long-term storage and dissemination of aliquots. We have also long standing collaborations with all South African overseas partners and have achieved several scientific projects already together. The inclusion in the DNA bank of representatives of all South African flowering plant genera is ambitious, but our partners include several of the highest profile botanists in the country. By working with stakeholders from the start, through the participation of Nature Conservation Authorities and extension workers, the access and benefit-sharing agreements will be more robust.

17. How will the work be distinctive and innovative? How will the project be advertised as a Darwin project and in what ways would the Darwin name and logo be used?

As far as is known, no project of this scale has been undertaken anywhere in the world apart from the UK. Indeed, in the UK, RBG Kew holds the largest DNA bank for plants (>14000 species), which includes DNA for all plant genera in the UK. The flora of South Africa is ca. 10 times larger than the British one, but the initial aim of banking 2200 genera is achievable, according to our experience. The project will also produce one of the largest phylogenetic trees, literally a 'Tree of Life' for South African plants. This will be used for prioritising areas for in situ conservation, which has never been done before on such a comprehensive scale. By-products will include one field guide for genera of the Cape Flora, a manual and teaching protocol for establishment of DNA banking facilities - including laboratory protocols and policy documents. The Darwin Initiative logo will be included on all such literature and the Darwin Initiative will also be acknowledged in all scientific publications.

18. Are you aware of any other individuals/organisations carrying out similar work? Are there completed or existing Darwin Initiative projects which are relevant to your work? Please give details, explaining the similarities and differences. Show how the outputs and outcomes of this work will be additional to any similar work, and what attempts have been/will be made to co-operate with such work for mutual benefits.

There is no similar work being performed in South Africa; since we are collaborating on this project with several of the major players in South African botany, it is very unlikely that we would not know if there were any similar ongoing work. The named partners in this project are not the only researchers working on phylogenetics in South Africa, however we collaborate with them and the DNA bank will be of mutual benefit by providing DNAs to the wider scientific community. We are not aware of similar Darwin Initiative projects.

19. Will the project include training and development? Please indicate who the trainees will be and criteria for selection. How many will be involved, and from which countries? How will you measure the effectiveness of the training and will those trained then be able to train others? Where appropriate give the length and dates (if known) of any training course. How will trainee outcomes be monitored after the end of the training?

Several people will be trained at University level. A minimum of nine members of staff from South Africa and the UK will be trained in biotechnologies and management of genetic resources, this will take place annually in one/two-week workshops in South Africa and the UK. No formal assessment will be organised for senior members of staff, though a participant attendance list will be produced.

A South African DNA bank manager will be hired for the project and will attend a four week training period at RBG Kew in June 2003 to learn the necessary lab techniques and database management. An assessment record will be produced.

All South African participants will be hired according to affirmative action criteria.

Six people will attain PhD or MSc degrees, assessment will be organised according to the respective Universities' regulations.

Trainees will be available to train others, whether in continuing in present post, at University higher degrees or other posts.

Another 40 students from South Africa will receive training in biotechnology, this will take the form of either one-week practicals with a final assessment exercise at Universities or study visits at the molecular systematics laboratory in the National Botanical Institute, Kirstenbosch.

20. How are the benefits and/or work of the project expected to continue after the end of grant period? Please provide a clear exit strategy.

After the end of grant period, the DNA bank will be self-supporting. The DNA bank manager will be trained and its post will be funded forward by the National Botanical Institute. Through the project, several students/trainees would have had a chance to do the job of DNA bank manager, they could either replace him/her if the person decided to leave the post or to take up a related job elsewhere.

DNA for all angiosperm genera will have been archived and will be accessible for use by the wider scientific community, additional plant or animal samples will be banked at low cost once the DNA bank has been set up. All teaching material, field guide and other publications produced during the project will be available to overseas and UK partners for their respective courses and lectures.

Areas of high priority for conservation will have been defined by analysing the DNA sequence data and these areas will be managed accordingly by the relevant conservation authorities.

21. Provide a project implementation timetable that shows the key milestones in project activities.

Project implementation timetable	
Date	Key milestones
2003/06	Initiation of the project, purchase equipment, establish plant collecting programme in South Africa
2003/07	Project workshop on biotechnology and management of genetic resources in the UK
2003/08	Web site established and DNA bank manager employed, DNA extraction and banking commence
2003/09	Workshop on biotechnology and management of genetic resources I in South Africa
2003/09	Plant collection (500 samples collected)
2004/01	Practical for university students at NBI and rbcL sequencing
2004/03	Plant collection (additional 500 samples collected), DNA extraction and banking (500 samples)
2004/04	Manual on management of genetic resources drafted, 1 publication in preparation
2004/09	Workshop on biotechnology and management of genetic resources II in South Africa
2004/09	Plant collection (additional 500 samples), DNA banking (500 samples) and rbcL sequencing (200)
2005/01	Practical for university students at NBI rbcL sequencing
2005/03	Plant collection (additional 500 samples), DNA banking (500) and rbcL sequencing (200)
2005/04	Manual and 1 publication finished, field guide drafted
2005/09	Workshop on biotechnology and management of genetic resources III in South Africa
2005/09	Plant collection (200), DNA banking (500) and rbcL sequencing (100)
2005/12	Manual published, 1 publication accepted, 2 publications submitted
2006/01	Practical for university students at NBI, DNA banking (200; total 2200 samples banked)
2006/02	End of project, follow up organised, final report

22. How will the most significant outputs contribute towards achieving the purpose of the project? (This should be summarised in the Log Frame as Indicators at Purpose level)

Once (a) the plant DNA bank has been set up and (b) holds a significant portion of the South African biodiversity, then (c) new conservation priorities will have been specified; (d) new policies and documents will have been outlined to allow strict control of the use of genetic resources; (e) many members of staff and students will have been trained in high-tech science and management of biological resources; thereby South African botany will have taken a major step towards increased knowledge of its biodiversity and towards managing its genetic resources in accordance with the country's obligations to the CBD.

23. Set out the project's measurable outputs using the attached list of output measures

PROJECT OUTPUTS

Year/Month (starting April)	Standard Output Number (see standard output list)	Description (include numbers of people involved, publications produced, days/weeks etc)
2006/02	1	2 South African students submitting/attaining PhD qualification
2006/02	2	4 South African students attaining MSc qualification
2004/02	4A	12 undergraduates
2005/02	4A	12 undergraduates
2006/02	4A	12 undergraduates
see above	4B	one week per student
2005/02	4C	2 postgraduates
2006/02	4C	2 postgraduates
see above	4D	twelve weeks per student
2006/02	5	1 South African DNA Banker for >3 years
2005/09	6	9 members of staff will attend 4 weeks of workshops
2005/04	7	1 manual on CBD/DNA bank, 1 set of biotechnology lab protocols
2005/10	8	3 people for 6-9 weeks in total
2006/02	9	Reports will be produced depending on genetic data gathered, target >500
2005/12	10	
2006/02	11	1 field guide produced on plant genera identification
2006/02	12A	A minimum of 1 paper published and 2 submitted to peer-reviewed journals
2006/02	13A	One species/DNA computer database + www to be established in South Africa
2006/02	13B	
2005/08	14B	1 species reference collection: DNA bank
2004/12	15A/B	1 species reference collection: herbarium vouchers of the DNA bank
2004/12	15C	At least two conferences to be attended
2003/07	17B	Two press releases
2004/07	18A	Two press releases
2003/06	20	Large S. African genera network to be enhanced
2006/02	21	'50/50' National bilingual weekly documentary £42,500 of physical asset (ultracentrifuge) One National Plant DNA bank to be established within NBI

MONITORING AND EVALUATION

24. Describe how the progress of the project, including towards delivery of outputs, will be monitored and evaluated in terms of achieving its overall purpose. This should be both during the lifetime of the project and at its conclusion. Please make reference to the indicators described in the Logistical Framework.

A monitoring web site for the project will be set up and all following figures will be updated monthly against the targets of the project:

- (a) species collected;
- (b) DNAs extracted and requests for DNA bank from researchers;
- (c) number of rbcL sequences produced;
- (d) reports, publications in preparation, submitted and published; progress on GMTA, manual and field guide;
- (e) number of students and staff trained;
- (f) workshops and practicals organised;
- (g) university degrees attained. Actions will be taken if targets are not met.

25. How will host country partners be involved in monitoring and evaluation of the project?

The monitoring web site will be accessible by partners from both UK and the host country, responsibility to include actual figures against targets will be shared and evidence will be required for all figures entered.

26. How will you ensure that the project achieves value for money?

Value for money is achieved when end-use of project outcomes/outputs is maximised:

- (a) we will ensure that banked DNAs are available to the world scientific community by setting up online ordering for aliquots;
- (b) we will ensure that scientific discoveries are maximised by publishing in the highest possible scientific journals
- (c) we aim to publish manual and field guide in publishers with broad distribution;
- (d) we will broaden the trainees by selecting them from at least three different universities across South Africa and recruiting students from previously disadvantaged backgrounds.

27. Reporting Requirements. All projects must submit six monthly reports (by 31 October each year) and annual reports (by 30 April each year). Please check the box for all reports that you will be submitting, dependent on the term of your project. You must ensure that you cover the full term of your project.

Report type	Period covered	Due date	REQUIRED?
Six month report	1 April 2003 – 30 September 2003	30 October 2003	Yes
Annual report	1 April 2003 – 31 March 2004	30 April 2004	yes
Six month report	1 April 2004 – 30 September 2004	30 October 2004	yes
Annual report	1 April 2004 – 31 March 2004	30 April 2005	yes
Six month report	1 April 2005 – 30 September 2005	30 October 2005	yes
Annual report	1 April 2004 – 31 March 2005	30 April 2006	yes
Six month report	1 April 2006 – 30 September 2006	30 October 2006	no
Final report	1 April 2004 – project end date	3 months after project completion	Yes

LOGICAL FRAMEWORK

28. Please enter the details of your project onto the matrix using the note at Annex B of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes.

Project summary	Measurable indicators	Means of verification	Important assumptions
<p>Goal: To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <ul style="list-style-type: none"> the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources 			
<p>Purpose</p> <p>To build the research and conservation potential of plant scientists and conservationists in South Africa by setting up a unique archive of plant genetic resources in the form of a DNA bank, and to formulate a policy framework and supporting documents to facilitate its scientific use under strict control and in line with developing South African CBD policy on access to genetic resources</p>	<ol style="list-style-type: none"> DNAs archived in the bank New knowledge on genetic diversity and structure Area of high priority for conservation identified and managed Access and benefit-sharing policy document and genetic material transfer agreements (GMTAs) Requests for banked DNA by researchers 	<ol style="list-style-type: none"> DNA bank facility set up at the National Botanical Institute Publications by partner organisation and in collaboration with RBG Kew Reports from conservation authorities Policy and GMTAs made available via manual and NBI website Records from DNA bank and related databases 	<p>Political stability maintained in S Africa; government support for collaborative projects involving access to genetic resources</p> <p>The DNA bank will continue to grow and be used</p> <p>Conservationists incorporate genetic research in their future work</p> <p>NBI and conservation authorities attract additional support to help maintain their respective activities</p>
<p>Outputs</p> <ol style="list-style-type: none"> Five partner organisations able to initiate, participate in and monitor research on plant genetic resources, for application towards in situ and ex situ conservation goals and sustainable use DNA from all S African plant genera preserved for future and genes sequenced Policy and GMTAs developed and in use University-level training 	<ol style="list-style-type: none"> A minimum of 9 staff trained in biotechnologies and management of genetic resources, in collaboration with local conservation authorities and universities DNAs available for supply and gene sequences deposited GenBank/EBI Material transfers running accordingly 6 people attain PhD or MSc, 40 students receive training 3 scientific papers, 1 	<ol style="list-style-type: none"> Participant attendance and assessment records; field survey reports Database of DNA data; sequences publicly available via GenBank/EBI GMTA and correspondence files University diplomas and student assessments Copies of all publications sent to Darwin Initiative 	<p>High % of participants complete the training, pass assessments and continue present employment</p> <p>High number of DNAs (>2200) banked; demand for access from local and foreign researchers for biodiversity studies & sustainable use</p> <p>High % of students complete the training, pass assessments and continue in higher degrees or get employment</p> <p>Publications accepted in</p>
<p>Activities</p> <ol style="list-style-type: none"> Workshops Fieldwork and lab research Courses, lectures and practicals Manual development, publications and publicity 	<p>Activity Milestones (Summary of Project Implementation Timetable)</p> <ol style="list-style-type: none"> Y1: project planning workshop with team to establish priorities and methodologies for developing training programmes and material, GMTAs, DNA banking, phylogenetic and conservation analyses (1 wk in UK, 1 wk in Africa); Y2: workshop on biotechnologies & GMTA development (1 wk 9/04); Y3: conservation & management skills workshop (1 wk 9/05) Y1: plant collection, equipment purchase & DNA bank manager hired by 8/03; DNA extraction, banking (500 samples by 3/04) & sequencing; Y2: plant collection, DNA extraction, banking (1500 samples by 3/05) & sequencing; Y3: plant collection, DNA extraction, banking (2200 samples by 1/06) & sequencing. Plant 'Tree of Life' produced. Y1, 2, 3: course organised for university students: Biotechnologies and Management of Genetic Resources (1 wk each January), 6 students get 1yr training each Y1: website established & in use; Y2: draft manual and 1 publication produced by 4/04, website; Y3: manual published, 1 publication accepted, 2 submitted, field guide published by 12/05, press releases. 		

FINANCIAL ASPECTS

29. Please state costs by financial year (April to March). Use current prices - do not include any allowance for assumed future inflation. For programmes of less than 3 years' duration, enter 'nil' as appropriate for future years. Show Darwin funded items separately from those funded from other sources.

Table A: Staff time. List each member of the team, their role in the project rate and the percentage of time each would spend on the project each year.

	2002/2003 %	2003/2004 %	2004/2005 %
United Kingdom project team members and role			
Dr Vincent Savolainen (project leader)	30	30	40
Prof Mark Chase (Head of Molecular Systematics at RBG Kew)	5	5	5
Mr Martyn Powell (DNA sequencing specialist)	10	10	10
Ms Kate Davis (CBD Implementation officer at RBG Kew)	10	5	5
Ms China Williams (CBD Education officer at RBG Kew)	10	5	5
Ms E Kapinos and Mr L Csiba (RBG Kew DNA bank managers)	5	5	nil
Dr Julie Hawkins (Lecturer at Reading University)	5	5	5
Host country/ies project team members and role			
Dr Gail Reeves (overseas project leader)	70	70	70
Prof Gideon Smith (overseas project co-leader)	5	5	5
Dr John Manning (Plant collection and taxonomic identification)	20	20	20
Dr Maureen Wolfson (Head of access and Benefit sharing)	20	5	5
Dr Michelle van der Bank (Lecturer RAU University)	5	5	5
Dr Terry Hedersen (Associate Professor and Keeper Bolus)	5	5	5
Dr Leanne Dreyer (Lecturer Stellenbosch University)	5	5	5
Ms Annelise Le Roux (Nature Conservation)	20	5	5
DNA bank manager to be appointed	100	100	100
Ms Ferozah Conrad (overseas project co-leader)	25	25	25

Table B: Salary costs. List the project team members and show their salary costs for the project.

Project team member	2003/2004 £		2004/2005 £		2005/2006 £	
	Darwin	Other	Darwin	Other	Darwin	Other
V. Savolainen (band F)						
M. Chase (band F)						
M. Powell (band B)						
K. Davis (band D)						
C. Williams (part time band D)						
E. Kapinos (band B)						
L. Csiba (band B)						
J. Hawkins (Lecturer B 13 points)						
G. Reeves (level 9)						
G. Smith (level 13)						
J. Manning (level 10 + package)						
M. Wolfson (level 12)						
M. van der Bank (Lecturer)						
Hedersen + Dreyer (Prof+Lect.)						
F. Conrad (level 8)						
A. Le Roux (Head of Scientific)						
DNA bank manager (level 7)						
TOTAL COST OF SALARIES						

Table C. Total costs. Please separate Darwin funding from other funding sources for every budget line.

	2003/2004	2004/2005	2005/2006	TOTAL
Rents, rates, heating, lighting, cleaning, overheads				
• Darwin funding				
• other funding				
Office costs e.g. postage, telephone, stationery				
• Darwin funding				
• other funding				
Travel and subsistence				
• Darwin funding				
• other funding				
Printing				
• Darwin funding				
• other funding				
Conferences, seminars etc				
• Darwin funding				
• other funding				
Capital items/equipment (please break down)				
• Darwin funding Ultracentrifuge for the DNA bank + related computer This expensive item is fundamental to set up a DNA bank and this is the reason why South Africa has not yet been able to set up its own DNA bank				
• other funding Deep freezer for maintaining the DNAs in the bank				
Other costs (please specify and break down)				
• Darwin funding Laboratory consumables for DNA extraction, PCR amplification and rbcl sequencing				
• other funding Laboratory consumables for DNA extraction, PCR amplification and rbcl sequencing				
Salaries (from previous table)				
• Darwin funding				
• other funding				
TOTAL PROJECT COSTS				
TOTAL DARWIN COSTS				
TOTAL COSTS FUNDED FROM OTHER SOURCES				

30. How is your organisation currently funded?

In 1903, Kew was transferred to the Board of Agriculture and Fisheries, the precursor of MAFF which was reconfigured into DEFRA in 2001. On 1 April 1984, Kew became a Non-Departmental Public Body (NDPB), responsibility for which was vested in a Board of Trustees under the authority of the National Heritage Act of 1983. Thus Kew attained a level of independence while continuing to be financed largely by MAFF (now DEFRA). Within the present structure of DEFRA, Kew reports to the Science Directorate. Kew's Director reports to a Board of Trustees. DEFRA's main roles as sponsoring department, are to ensure that Kew delivers its statutory obligations, is accountable to Parliament for the expenditure of public funds and produces work of high scientific quality that represents good value for money. Two distinct corporate bodies also support Kew – RBG Kew Enterprises, and the Foundation and Friends of the Royal Botanic Gardens, Kew.

31. Provide details of all other funding sources identified in Question 29 that will be put towards the costs of the project, including any income from other public bodies, private sponsorship, donations, trusts, fees or trading activity. Please include any additional funding the project will lever in to carry out additional work during or beyond the project lifetime. Indicate those funding sources which are confirmed.

Other funding identified under question 29 will be core-funded either by the National Botanical Institute in South Africa or by the Royal Botanic Gardens, Kew, in the UK.

32. Please give details of any further resources sought from the host country partner institution(s) or others for this project that are not already detailed in Questions 29 and 31. This will include donations in kind and un-costed support e.g. accommodation.

The NBI will provide conference/workshop facilities, on-site accommodation, and office and laboratory space for all visiting partners from the UK.

33. Please separately indicate in Table D the amounts of grant requested under the Darwin Initiative and any confirmed funding/income from elsewhere (where these may be costed). Add together to show total project costs.

Table D Darwin funding request

	2003/2004	2004/2005	2005/2006
Amount of Darwin Initiative funding requested	57250	35875	23062
+ Funding/Income from other sources	63126	63054	71137
= Total project cost	120366	98929	94199

