



EIDPS025



DARWIN200

Submit by Friday 19 February 2010

### APPLICATION FOR DARWIN FELLOWSHIP PROGRAMME ROUND 17

Please read the Guidance Notes before completing this form. Where no word limits are given, the size of the box is a guide to the amount of information required. Information to be extracted to the database is highlighted blue.

**1. Name and address of UK Host organisation** (NB: Notification of results will be by post and addressed to the main UK Expert listed in Section 5)

<b>Name:</b> The University of Reading (UoR)	<b>Address:</b> School of Biological Sciences, Lyle Tower, RG6 6BX. Berkshire, U.K.
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**2. Name and official address of proposed Darwin Fellow** (include email and telephone details where available)

<p>María de la Luz Ruiz Maqueda.          Universidad Autónoma de Querétaro          Laboratorio de Ecología          Av. de la Ciencias s/n, Juriquilla, Querétaro, México. CP 76230</p>
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**3. Project dates, duration and total Darwin Initiative Grant requested**

<b>Proposed start date:</b> 1 <sup>st</sup> October 2010 <b>Duration of project:</b> 1 year <b>End date:</b> 30 <sup>th</sup> September 2011			
<b>Darwin funding requested</b>	<b>2010/11</b>	<b>2011/12</b>	<b>Total</b>
	£19 925	£6 775	£26 700

**4. Summary of proposed Fellowship (no more than 100 words)** ie Purpose and expected outputs and outcome

<p>María de la Luz Ruiz Maqueda (Luz) will study for an MSc in Plant Diversity. She will further develop skills in project design, data collection and analysis, and analytical and writing skills. She will finalise her publications in order to disseminate research findings of the original Darwin project, and contribute to the project's continued development through her research project. The award of a higher degree will help to lever funds for related doctoral thesis work. The fellowship will last for one year from October 2010 and will be based at the University of Reading's Centre for Plant Diversity and Systematics.</p>
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**5. Principals in the Project.** Please give the details of the individuals from the UK host organisations (and other institutions if relevant) who would be directly involved in supervising/working with the Darwin Fellow. Please provide a one page CV for each of these named individuals. You may copy and paste this table if you need to provide details of more than one overseas project partner.

Details	Main UK expert	Other UK expert	Other UK expert	Other UK expert
Surname	Dr Hawkins			
Forename(s)	Julie			
Post held	Reader in Plant Systematics and Evolution: lecturer and module convenor, MSc Plant Diversity			
Institution (if different to UK Host)				
Department	Biological Sciences			
Telephone				
Email				

**6. Describe briefly the aims, activities and achievements of the UK Host organisation. (Large institutions please note that this should describe your unit or department) (150 words)**

The School of Biological Sciences at the University of Reading aims to deliver excellent and relevant degree programmes whilst maintaining research intensive status. The MSc in Plant Diversity is delivered by staff associated with the Centre for Plant Diversity and Systematics (CPDS) a vibrant research unit within the School launched in 1996. The mission of CPDS is to more firmly establish UoR as a centre of excellence for research in plant systematics, and to provide an “academic home” for the MSc Plant Diversity students. The CPDS comprises six members of academic staff, plus associated staff and research students. Their research activities inform and drive forward the development of the MSc. CPDS research projects complementary to the Darwin mission have delivered conservation-relevant outputs of international importance. These have exploited modelling environmental change responses and the systematic study of invasive plants, as well as fundamental taxonomy and vegetation science.

**7. Describe briefly the aims, activities and achievements of the proposed Darwin Fellow’s employing organisation. (Large institutions please note that this should describe your unit or department) (150 words)**

The mission of the Faculty of Natural Sciences, Universidad Autónoma de Querétaro, is to combine the generation of knowledge with continuous improvement of their academic programs and material and human resources, and to promote integrated education. The Cuerpo Académico (Scientific grouping) for Biology, Plants and Micro-organisms comprises eight members of academic staff, including Dr Bárcenas, the co-PI of the original Darwin Initiative project. The group’s objectives are to generate information about the biology and use of plants and micro-organisms, strategies for their conservation and to identify the impacts of human activities on their distribution and use. Significant funding for projects related to these aims has been secured from National agencies (e.g. CONACYT, SEMARNAT). These activities have resulted in publications in peer-reviewed international journals and invitations to speak at international conferences. Most recently the work of Dr Bárcenas has secured investment in the botanic garden associated with the Faculty.

**8. Describe briefly the proposed Fellow's current role within their organisation and their link to a Darwin project, including the project reference number, his/her role in that project and any ongoing involvement. (200 words)**

Luz is employed as a technician researcher within the Cuerpo Académico for Biology, Plants and Micro-organisms, Universidad Autónoma de Querétaro (UAQ).

Luz was an undergraduate student when interviewed at the start of Darwin project "Certification to support conservation of endangered Mexican desert cacti", 14-059. Before travelling to the UK, and whilst she was still a UAQ undergraduate, Luz played a pivotal role in the development of the certification scheme by micro-propagating plants with certified genotypes. Once she graduated, Luz travelled to the UK as a Darwin exchange student, where she worked alongside Dr Hawkins for five and a half months to get laboratory skills in DNA-based species identification. On her return to UAQ she continued to micro-propagate plants and care for them once they are transferred to the glasshouses. Since she has practical skills in both micro-propagation and DNA-based identification, in terms of her practical skill set she is the most experienced member of the UAQ team. We are continuing to work together to submit for peer-review publications describing the work she carried out in the UK.

**9. Provide a concept note on the Darwin Fellowship (maximum 1,000 words). This should include:**

- a clear outline of the aim and objectives of the Fellowship
- the role of the UK Host organisation, and others where relevant (including contacts)
- where appropriate, how the Fellowship will contribute towards sustainable development or sustainable livelihoods ie what the expected outcome of the Fellowship will be, with regard to the higher goals of the Darwin Initiative

The illegal cactus trade presents a significant challenge to Mexico in terms of meeting obligations as a signatory of the CBD. Mexican legislation prohibits trade of wild-collected cacti. Nursery growers, however, may collect wild plants to propagate. The absence of a scheme certifying plants as nursery progeny of plants legally collected to be propagated, and widespread illegal trafficking, have undermined growers' legitimate trade. Additionally, enforcement can be limited by difficulties in species identification. In order to implement the CBD in Mexico, new tools were needed which could track the chain of production of plants, from legally collected mother plant to consumer, or track back from seizure by customs officials to site of illegal collection.

The DI-funded project "Certification to support conservation of endangered Mexican desert cacti (14-059)" transferred DNA tools to Mexico to meet these needs. The technology transfer, alongside stakeholder dialogue,

- proposed a mechanism of regulation for management of activities
- facilitated cooperation between governmental authorities and the private sector
- encouraged the use of biological resources in a way that minimised adverse impacts on biological diversity
- provided a framework whereby sharing of the benefits arising from the commercial utilisation of genetic resources can be fair and equitable
- built capacity in biotechnology

Now certified plants are ready for market, and seized plants can be easily identified using the tools established at the University of Querétaro (UAQ). The project implemented exit strategies which assured the Mexican PI's permanent position in the Mexican host institution, UAQ, and significant resource, in terms of infrastructure, is directed towards conservation of Mexican desert cacti beyond the project's end.

Through the ongoing dialogue between the University of Reading (UoR) and UAQ, the following opportunities to more deeply embed the outputs of the original project have been identified.

- Expansion of the portfolio of certified species and optimisation of propagation techniques to meet demand
- High-profile marketing to secure interest in future sustainable trade of certified plants

- Expansion of the remit of the UAQ activities as part of a Centre for Characterisation, Propagation and Reintroduction of Seized Cacti

Each of these activities requires additional expertise within UAQ. Most notably, they all require commitment from staff who are sufficiently informed and sufficiently authoritative to engage the relevant Mexican authorities (PROFEPA, the National environmental enforcement agency and SEMARNAT, the CITES Management Authority). Presently only Dr Bárcenas, the co-PI of the original DI project, and his collaborators at other institutions, are responsible for management and development of activities. If activities are to be further expanded, staff already engaged in the project need to be fostered and promoted.

Luz has shown herself to be an extremely competent researcher in the laboratory, both with respect to micro-propagation and to development and application of molecular markers. She is an enthusiastic and determined worker, with real commitment to conservation and development, and the ability to deliver. She shows great promise, both as an ambassador for the project and as a future leader. However, she needs to be better qualified to progress in the Mexican system.

The principal aims of the Fellowship are to ensure that Luz enhances her skills and her on-paper qualifications so that she can become a future project leader for the Centre for Characterisation, Propagation and Reintroduction of Seized Cacti. She will spend a full academic year at the University of Reading, where she will register for a higher degree – the MSc in Plant Diversity. The MSc training will provide her with an opportunity to further develop skills in project design, data collection and analysis, and analytical and writing skills. Subject-specific skills developed include taxonomy, biodiversity conservation, vegetation survey and plant ecology. The programme includes elements of training in biodiversity policy which will complement her training until now, which has been predominantly technical. For example, graduates are able to

- apply a working knowledge of the biodiversity action planning
- synthesise biodiversity assessment reports, making use of inventory, evaluation and conservation programmes of major agencies, ex situ and in situ conservation programmes, and the principal legal instruments available
- demonstrate good understanding of the UN Convention on Biological Diversity, and other conventions, and how they relate to biodiversity issues on sovereignty, intellectual property rights and the rights of indigenous peoples, in order to inform the development of plant conservation and utilisation strategies

The MSc training will also give Luz an opportunity to gain confidence in networking.

Whilst in Reading Luz will have the opportunity to finalise publications arising from the research work she carried out as part of the original Darwin project. This is valuable experience for Luz in dissemination of research findings, but it also serves to make the work arising from the original project more widely available.

The MSc training also includes a substantial research project, which Luz will plan and develop in close association with Dr Hawkins, Dr Bárcenas and others at UAQ, so that her project work further enhances the original DI project. The project we plan to develop is the project described in the letter of support from UAQ, “Micro-propagation and conservation of an endangered cactus: *Echinocactus grusonii*.” By linking community-based propagation directly to commercialization, our goal is to contribute to sustainable livelihoods. Work in communities is being developed by Dr Bárcenas so that national and international purchasers buying certified cacti are buying a brand that represents local communities benefiting from trade (fair trade), as well as CITES compliant (legal) sourcing. These activities demand ongoing interactions with national agencies to develop policy, as well as developing ongoing stakeholder dialogue with communities. Alternative MSc research projects could be developed as the developing activities in Mexico demand.

Finally, the award of a higher degree (MSc), and the publication of results of the work carried out to date, will help to lever funds to pursue related doctoral thesis work.

**10. Legacy. Provide information on how the Darwin Fellow will utilise, promote and disseminate the benefits of the Fellowship on return to his/her home country. Will a strategy be developed during the Fellowship to ensure this is achieved? (200 words)**

Luz will return to the Universidad Autónoma de Querétaro to continue her work in the Faculty of Natural Sciences until she is able to secure funding for related doctoral work. By continuing to work with cactus certification and the planned Centre for Characterisation, Propagation and Reintroduction of Seized Cacti, she will more deeply embed the original project's activities and goals in her home institution. Luz's sustained involvement in the project's development, plus her determination to pursue a career that builds on what she has learnt, will ensure that she becomes a future advocate for CBD and CITES compliant applied research activities in whichever Mexican institution she is established as a post-doctoral scientist. Her plan for the development of doctoral research will be developed in consultation with UAQ staff to ensure that her doctoral research is also directed towards national needs. She will be equipped to train others in the use of the practical tools she has mastered.

**11. How will the Fellowship assist the Fellow's organisation and/or local communities and/or home country in working towards the objectives (or implementation) of the CBD/CITES/CMS? Please refer to specific Articles or cross cutting themes as appropriate. (200 words)**

By providing a DNA-based identification tool and a certification scheme for nursery-propagated, traded cacti, the original project supported implementation of Articles 8 (regulatory provision for management of activities), 10 (cooperation between governmental authorities and the private sector; use of biological resources to avoid or minimise adverse impacts on biological diversity), 12 (education and training in biotechnology), 15 (sharing in a fair and equitable way the benefits arising from the commercial utilisation of genetic resources), 16 (technology transfer and use of genetic resources), 17 (exchange of information and specialised knowledge) and 18 (cooperation and exchange of expertise). Further developments since the project's completion have been directed at CITES Resolution 10.7 "disposal of confiscated live specimens of species". Luz's activities, to more deeply embed the activities of the original project and developments since the original project's completion, work across all these objectives.

**12. What collaboration has there been with the Darwin Fellow to date in developing the proposal, and what collaboration is planned for the duration of the Fellowship? Where relevant, describe any consultation or collaboration by the proposed Fellow within his/her own country. (200 words)**

Luz has been involved in deciding which M.Sc. could most effectively contribute to the future needs of the project in Mexico, as well as contributing to her personal development as a conservation scientist. Luz wrote a first draft of the concept note, and has worked closely with staff at UAQ, developing discussions about the integration of her research activities as a fellow with the ongoing activities in Mexico. During the Fellowship the Fellow will explore opportunities for joint projects in the future, specifically regarding the possibility of developing doctoral work. Funding for doctoral studies is very competitive, so Luz recognizes that the opportunity to publish, as well as to obtain a higher degree, will strengthen her application.

**13. Where will the Darwin Fellow be based? Please be specific with organisational details and dates (where more than one location). (200 words)**

Luz will be based at the University of Reading for the duration of the taught part of the MSc (October to May) and for the first two weeks of the project period, for project planning, returning to the UK after a period of project work in Mexico. During the year, as part of the taught MSc programme, students visit the Natural History Museum London, and the Royal Botanic Gardens, Kew, and experts from these and other institutions are involved in the delivery of the teaching.

Luz will spend a proportion of the project period in Mexico, where project work can be most usefully developed. Detailed project planning is an important part of the MSc student learning, so the duration of project time to be spent in Mexico is to be determined as part of training in project planning. Whilst Luz is in Mexico, Dr Bárcenas (UAQ) will act as her supervisor, since he is leader of the original (but ongoing) Darwin project.

14. Provide a programme of work, including key milestones, through the duration of the Fellowship

Activity	Duration	2010/11									2011/2011					
		J	A	S	O	N	D	J	F	M	A	M	J	J	A	S
Taught component of MSc Plant Diversity Programme	7 months				x	x	x	x	x	x	x					
Research project component of MSc Plant Diversity Programme	5 months											x	x	x	x	x

**15. Financial Aspects. Please use UK Government Financial Years ie April 2010 – March 2011 etc)**

<b>Fellow payment</b>				
	10/11	11/12	2010/11	2011/11
London: £1200/month	Number of months		£	£
UK (outside London): £1000/month	6	4		
Overseas location £1000/month* See question 16 (Other sources of funding).	Number of months			
<b>Host Organisations' costs</b>				
	10/11	11/12	2010/11	2011/12
UK: £300/month	Number of months		£	£
Overseas location: £ /month*	Number of months		£	£
<b>A. Total Fellow &amp; Host Organisation Costs</b>				

<b>Actual travel costs (Return journey to Fellowship location)</b>		
	2010/11	2011/12
Return airfare. <i>Details</i> Mexico City – London Heathrow.	£	£
Travel to/from airports. <i>Details</i> petrol costs approx £5 per journey for travel to and from Mexico City; £15 bus fare and £5 taxi between London Heathrow and Reading		
Visas etc. <i>Details</i>		
<b>B. Total Fellowship Travel Costs (Actual costs up to £2000 will be paid)</b>		

<b>Actual travel costs 'Additional Travel'</b>		
<b>Maximum £500 within country of Fellowship location, £1500 for international travel.</b>		
<b>Specify purpose:</b>		
to develop project work		
Return airfare. <i>Details</i> Mexico City – London Heathrow.	2010/11	2011/12
		£
Subsistence <i>Details (including number of days)</i> <i>Contact the Darwin Applications Unit for rates</i>		
Travel to/from airports. <i>Details</i> petrol costs approx £5 per journey for travel to and from Mexico City; £15 bus fare and £5 taxi between London Heathrow and Reading		
Visas etc. <i>Details</i>		
<b>C. Total (Other travel) costs</b>		

<b>D. ACADEMIC FEES</b>	2010/11	2011/12
<i>Fees for overseas students are £13, 200 for the MSc, to be paid on registration (i.e in year 10/11)</i>	£	£
<b>TOTAL FELLOWSHIP COSTS (A + B + C + D)</b>		

\* Figures available from the Darwin Applications Unit Tel: 0131 440 5180

**16. Other sources of funding: provide details and amounts**

Additional funding to be used for developing research project from personal research budget of host institution's academic supervisor, £XXX.

Plus funding in kind from UAQ, e.g. use of laboratory facilities whilst in Mexico to develop project work.

Note on costs in Mexico:

We anticipate one or two months in Mexico. Following email exchange with the Darwin Applications office we are budgeting for time in Mexico as follows. Luz will need to pay costs in the UK, specifically room rent, while she is away on fieldwork during the academic year. For this reason we have held Luz's monthly subsistence rate at £1000 for time in Mexico, the same rate as if she was in the UK. We have not claimed for costs of research or travel in Mexico, since these will be met by UAQ from the institutional budget for the ongoing Darwin project activities. An additional airfare is claimed, plus travel to and from the airports, for this project work visit. We note that additional travel costs are awarded to contribute to development of policy skills (for example, attendance at national or international workshops or meetings); we anticipate that the development of policy skills will be integral to Luz's project work, for example as they relate to stakeholder dialogue in communities.

**FCO NOTIFICATION**

Please check the box if you think that there are sensitivities that the Foreign and Commonwealth Office will need to be aware of should they want to publicise details of the Darwin Fellowship and the resultant work in the UK or the Darwin Fellow's home country


**CERTIFICATION**

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful.

I enclose CVs for project principals and letters of support as requested in the Guidance Notes.

<b>Name (block capitals)</b>	Candice Stockton
<b>Position in the organisation</b>	Research Support Officer

Signed



Date:

18<sup>th</sup> February 2010

**Electronic link to a website where a copy of our most recent annual report and accounts can be accessed:** <http://www.reading.ac.uk/finance/accounts/index.htm>



## Fellowship Application - Checklist for submission

	Check
Have you provided actual start and end dates for the Fellowship?	x
Have you provided your budget based on UK government financial years ie 1 April – 31 March?	x
Have you checked that your budget is complete, correctly adds up and that you have included the correct final total on the top page of the application?	x
Is the concept note within 1,000 words?	x
Has your application been signed by a suitably authorised individual? <b>(clear electronic or scanned signatures are acceptable)</b>	x
Have you included a 1 page CV for the proposed Fellow and the UK experts listed in Section 5?	x
Have you provided the relevant letters of support?	x
Have you included a copy of your most recent annual report and accounts? <b>An electronic link to a website is acceptable.</b>	<b>See preceding page</b>
Have you read the Guidance Notes?	x

Once you have answered Yes to the questions above, please submit the application, not later than 2359h GMT on **Friday 19 February 2010** to [Darwin-Applications@ltsi.co.uk](mailto:Darwin-Applications@ltsi.co.uk) using the name of the proposed Fellow as the subject of your email. If you are e-mailing supporting documentation separately please include in the subject line an indication of the number of e-mails you are sending (eg whether the e-mail is 1 of 2, 2 of 3 etc). In addition, a hard copy of the application and any supporting documents not available electronically should be submitted to the Darwin Applications Management Unit, c/o LTS International, Pentlands Science Park, Bush Loan, Penicuik EH26 0PL postmarked not later than **Monday 22 February 2010**.

**DATA PROTECTION ACT 1998:** Applicants for grant funding must agree to any disclosure or exchange of information supplied on the application form (including the content of a declaration or undertaking) which the Department considers necessary for the administration, evaluation, monitoring and publicising of the Darwin Initiative. Application form data will also be held by contractors dealing with Darwin Initiative monitoring and evaluation. It is the responsibility of applicants to ensure that personal data can be supplied to the Department for the uses described in this paragraph. A completed application form will be taken as an agreement by the applicant and the grant/award recipient also to the following:- putting certain details (ie name, contact details and location of project work) on the Darwin Initiative and Defra websites(details relating to financial awards will not be put on the websites if requested in writing by the grant/award recipient); using personal data for the Darwin Initiative postal circulation list; and sending data to Foreign and Commonwealth Office posts outside the United Kingdom, including posts outside the European Economic Area. Confidential information relating to the project or its results and any personal data may be released on request, including under the Environmental Information Regulations, the code of Practice on Access to Government Information and the Freedom of Information Act 2000.