DARWIN NEWS

Issue 9
July 2007

Newsletter of the UK Darwin Initiative

Promoting biodiversity conservation and the sustainable use of resources

IN THIS ISSUE:

You can find out more about any of these projects from the Darwin Initiative website, in the *Projects* section.

http://www.darwin.gov.uk

http://www.defra.gov.uk/environment/darwin

Lagopsis darwiniana, a new species named after the Darwin Initiative (Photo: A.I. Pyak)
(see article "*New endemic species of deadnettle and buttercup found in Mongolia*")

Conservation designation success for Pacific Archipelago

James M Mair, Centre for Marine Biodiversity and Biotechnology, Heriot-Watt University
Project ref.: EIDPO17

At the beginning of June 2007, a 'Special Management Zone' for 168,771 hectares of marine environment was written into Law by the Panamanian government. The creation of this new marine protected area in the Tropical Eastern Pacific (Las Perlas Archipelago) was the culmination of 3 years effort of the Darwin Project "*Marine biodiversity assessment and development in Perlas Archipelago, Panama*"[1] and continued pressure by work on the Darwin post-Project [2]. In 2006, the legislation had passed through three readings of the Panamanian Congress but it stalled due to conflicting interests for potential large tourism development plans for the islands. The Darwin Project's Conference and Workshop held in March 2006[3] attempted to address the issue of compatibility of sustainable tourism developments and conservation of the area's natural resources. Lengthy negotiations and constant pressure exerted by Dr Hector Guzman of the Smithsonian Tropical Research Institute (STRI Darwin Project host-country leader) and numerous stakeholders however ensured the eventual successful protected status designation of the Archipelago (the main objective of the original Darwin project).

A few months earlier, in December 2006, following sensitivity mapping work carried out by one of the project's Darwin Fellows, a terrestrial area of 9,822 hectares on the main island of the Archipelago (El Rey) was designated by law as a Hydrological Reserve[4]. Important highland forest vegetation and coastal mangrove areas were included here to ensure the sustainability of water, natural resources and habitats for the local inhabitants of the islands who live in scattered coastal villages.

Darwin researchers surveying Concha habitat – mangrove mud

During May 2007, the fifth and final annual major survey to Las Perlas was carried out by UK and Panamanian Darwin Project personnel accompanied by two MSc students from University College London and three MSc and two PhD students from Heriot-Watt University. The two UCL students (terrestrial conservation ecologists) carried out vital new survey work of reptilian and avian fauna on the El Rey Hydrological Reserve. One of the legal articles in the new marine Special Management Zone decree is to introduce a one-year moratorium on the Concha (clam) fishery which local villagers had requested in order to attempt to allow this resource to recover. One of the Heriot-Watt University MSc students, with help from local fisherwomen, surveyed and sampled collection areas to assist in the development of a longer term management plan for this resource. The other Heriot-Watt students carried out continuing studies on longer term research into coastal plankton and reef fish communities.

The new marine Special Management Zone around Las Perlas Archipelago

Dr Guzman at STRI was instrumental in getting another Panamanian offshore island (Coiba) designated as a marine National Park in 2004[5]. Now that Las Perlas Archipelago is fully designated as a protected area (and should attract further international conservation agency funding), the next objective is to push to have Las Perlas included in the chain of protected offshore islands which form the Tropical Eastern Pacific 'Marine Corridor'[6] in this area (which includes Ecuador's Galapagos Archipelago, Colombia's Malpelo/Gorgona, Panama's Coiba and Costa Rica's Cocos islands).

The British Ambassador on site visit with Darwin survey team

The Darwin Project team would like to express their huge appreciation to all the stakeholders who maintained the pressure to see the successful conclusion of the new conservation status of Las Perlas. The Ambassador and staff at the British Embassy in Panama have also always taken a keen interest, and fully supported the work, plus provided two small environmental

1 http://www.darwin.gov.uk/projects/details/12021.html
2 http://striweb.si.edu/darwin_initiative/
3 http://striweb.si.edu/darwin_initiative/PDFs/Darwin Congress.pdf
4 http://www.stri.org/english/about_stri/headline_news/news/article.php?id=542
5 http://www.unep-wcmc.org/sites/wh/coiba.html
6 http://www.conservation.org/xp/frontlines/protectedareas/partners23-1.xml

grants specifically to help study the local snapper fishery and conservation work with turtle populations - including satellite–tagged turtles named Darwin 1 and Darwin 2[7]. ■

Bright future for Cape mountain zebra?

Dr Russell Hill & Dr Rebecca Smith, University of Durham
Project ref.: 162/13/014

BY the 1950s hunting and competition with farmers for grazing had reduced the world population of Cape mountain zebra (*Equus zebra zebra*) to less than 100 animals in just five relic populations. Although only three natural populations now remain at Mountain Zebra National Park and Kammanassie and Gamkaberg Nature Reserves, conservation initiatives and reintroductions have resulted in a steady increase in numbers to approximately 1200 animals in 2000. Despite this, the subspecies remains rare and is classed as endangered (IUCN Endangered; CITES Appendix I) and regular monitoring remains a priority. Unfortunately population updates on the status of Cape mountain zebra ceased in 2000. This coincided with the transition of Western Cape Nature Conservation Board (now CapeNature) from a provincial government agency to a more independent board and the associated restructuring resulted in high staff turnover and loss of experienced field rangers. When our Darwin project commenced in 2004, therefore, the pressing need was to implement a sustainable monitoring program for Cape mountain zebra.

Figure 1: Mountain Zebra National Park hosted the 2006 Mountain Zebra Working Group meeting (photo: R Smith).

Since early 2005 we have been working at De Hoop Provincial Nature Reserve to re-establish long-term monitoring. The De Hoop population is of critical importance due to its genetic diversity; the Cape mountain zebra at De Hoop were founded from two natural populations whereas all other reintroductions have come from just Mountain Zebra National Park stock. Our project is using icon-driven computer software produced by CyberTracker Conservation to train field rangers in zebra monitoring techniques. At the same time we have been able to assess a range of large mammal census techniques to build capacity for mammal management in Western Cape nature reserves. There are now approximately 100 Cape mountain zebra at De Hoop, but while this population growth is excellent news we are starting to see evidence that the population has reached the maximum size that this conservation area can support.

Figure 2: De Hoop field rangers (Andrae and Nickel) enter Cape mountain zebra sightings onto CybterTracker (photo: R Hill)

In October 2006 we were invited to present our findings at the Mountain Zebra Working Group meeting held at Mountain Zebra National Park. This meeting brought together all of the stakeholders involved in mountain zebra conservation including government agencies and private landowners and is an important forum for disseminating information and management practices. It was clear from the meeting that the De Hoop is now one of the most effectively monitored mountain zebra populations and that the future looks good for Gamkaberg and Kammanassie Nature Reserves as our training has extended to these populations. The meeting also created an impetus to see similar training programs implemented for all other Cape mountain zebra populations. If this momentum is maintained we will once more have an accurate picture of total zebra numbers upon which to base management decisions in the very near future. Challenges lie ahead, however. Our work at De Hoop has highlighted the urgent need for a meta-population strategy with clearly defined objectives for translocation priorities for Cape mountain zebra. Our Darwin project has laid the foundations for a bright future for Cape mountain zebra but we must ensure these conservation efforts are maintained to guarantee the continued and successful recovery of these magnificent animals. ■

Figure 3: Exceptionally large groups of bachelor males are being observed at De Hoop suggesting that translocations may soon be necessary (photo: R Smith).

7 http://striweb.si.edu/darwin_initiative/news.html

Marine reserves declared in Rodrigues and local NGO Shoals Rodrigues wins two awards

Dr Alasdair Edwards, University of Newcastle upon Tyne
Project ref.: 162/13/027

On 9 April 2007, after two years work by the Newcastle University led Darwin Initiative project Developing Marine Reserves for Biodiversity Conservation and Sustainable Fisheries in Rodrigues, four marine reserves were finally gazetted in Rodrigues to help protect fish stocks and marine habitats harbouring endemic species in the 240 km² lagoon. In the National Environmental Action Plan for the period to 2010, the Government of Mauritius identified the deterioration of marine systems and the degradation of the coastal zone as major national environmental problems, and advocated the establishment of protected areas as a mitigation measure. The local NGO Shoals Rodrigues has been working closely with the Rodrigues Regional Assembly since 2002 to implement these recommendations. This good news came shortly before a major regional workshop was hosted (the first for Rodrigues!) by Shoals Rodrigues as part of the Darwin project. The workshop, entitled "*A Regional Perspective on MPAs in the Western Indian Ocean*", was opened by Rodrigues' Chief Commissioner, Mr Johnson Roussety, and brought together 75 delegates from 12 countries at the Escale Vacances Hotel in Port Mathurin on 9-14 May to discuss the issues of unsustainable marine resource use and how MPAs can be used as effective management tools.

Alasdair Edwards, PI on the Darwin Initiative project, with Chief Commissioner, Mr Johnson Roussety, Commissioner Franceau Grandcourt, and Shoals Rodrigues Director, Eric Blais at the workshop opening ceremony.

Originally planned as a modest meeting with 25 delegates, the scope of the meeting was widened in discussion with Dr Rémi Ratsimbazafy (WWF Madagascar), M. Denis Etienne (Indian Ocean Commission, Mauritius), and Dr Julius Francis (Western Indian Ocean Marine Science Association – WIOMSA) to include a two-day session to initiate the Western Indian Ocean Marine Ecoregion (WIOMER) MPA Managers' Forum, in addition to the three-day formal meeting with sessions on: a) Community participation and education, b) Monitoring and managing MPAs – community issues, c) Funding and income generation, d) Monitoring and managing MPAs – case studies and research findings, and e) Impediments and solutions in MPA management. The Darwin funding provided a catalyst which attracted twice as much again from Fonds Français pour l'Environnement Mondial, WWF, the European Union's Regional Programme for Coastal Zone Management of the West Indian Ocean Countries (ReCoMaP), WIOMSA, and the French Ministry for Foreign Affairs, to support the much larger meeting.

Island and coastal states across the Western Indian Ocean region are all faced with similar problems of how to protect their unique and fragile marine ecosystems while still maintaining the livelihoods of artisanal fishers and others for whom the sea is a vital part of their culture and daily life. The workshop was a great opportunity for Rodrigues delegates to learn lessons from MPA managers throughout the region and further afield (e.g. Senegal, India, St Lucia), and for regional delegates to share information, experience and ideas. Highlights of the workshop included a visit to the Rivière Banane marine reserve, which will be the first to be demarcated, and a stakeholder meeting by Creole speaking delegates (Seychelles, Mauritius, Madagascar, Comores) with local Rodriguais fishermen affected by the new reserves.

A majority of the Darwin supported participants at the Rodrigues MPA workshop.

The WIOMER MPA Managers' Forum, part of a project managed by the Indian Ocean Commission and WWF to bring regional coherence to MPA development, was successfully established and now networks MPA managers from Mauritius, Rodrigues, Seychelles, Comoros, Madagascar and Réunion.

Rodrigues MPA workshop participants.

Deputy Chief Commissioner Gaetan Jabeemissar launched the second Darwin Initiative funded fisheries education poster. Here, Eric Blais, Director of Shoals Rodrigues, presents Mr Jabeemissar with a copy of the poster.

In recognition of their environmental and education work, Shoals Rodrigues, was recently awarded the Médaille de la Reconnaissance Rodriguaise. The medal was presented to Shoals' Director, Eric Blais by the Commissioner for Health during an awards ceremony held in Port Mathurin to celebrate the 4th anniversary of Rodrigues' accession to autonomy. This

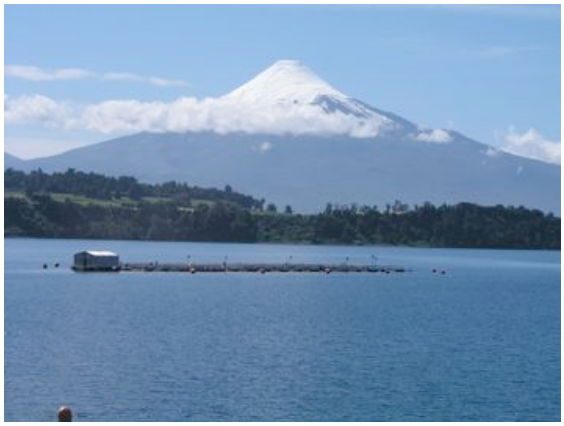
award comes on top of their recent winning entry for the 2006 Arab Gulf Programme for United Nations Development Organizations (AGFUND) prize. Shoals' "*Discovering the Ocean World*" primary school teachers' pack topped the category for projects implemented by NGOs providing education services, having been nominated for the prize by Mrs Pamela Bapoo-Dundoo (National Coordinator in Mauritius for the United Nations Development Programme managed Global Environment Facility, Small Grants Programme). ■

Eric Blais, Director of Shoals Rodrigues, receives the Médaille de la Reconnaissance Rodriguaise. from the Commissioner for Health.

Salmon farming in troubled waters: coming to terms with exotic aquaculture in Chile

Dr. Carlos Garcia de Leaniz, University of Wales Swansea
Project ref.: 162/15/020

SALMON farming is one of the most buoyant and lucrative businesses in Chile, capitalizing on a highly valuable export commodity that generates significant revenue. Chile is set to become the world's top salmon producer, and the industry is considered a successful example of the country's commitment to free market, world trade and economic growth. The problem is that there are no naturally occurring salmonids in the Southern Hemisphere.



Atlantic salmon farm in freshwater, Lake Llanquihue (X Region Chile)

All salmonids found in Chile (and there are many) are fish that are being farmed, fish that have escaped from fish farms, or fish that have been purposely stocked for sea ranching, or more often for sport fishing. Salmonids in Chile are therefore non-native (or alien) species: widely distributed, self-sustained, and locally abundant, but non-native. But then, so are grapes (wine being another of Chile's icons of economic growth), eucalyptus trees, or most agricultural crops.

Rainbow trout farm in seawater, Caleta Martin (X Region Chile)

Under such a scenario, the Darwin Initiative project "*Reducing the impact of exotic aquaculture on native aquatic biodiversity*" is drawing attention to the potential impacts of salmon farming on Chile's unique aquatic ecosystems, with a view to making the industry more sustainable. Not an easy task. To begin with, how to get the industry and other stakeholders fully convinced of the importance of the project? A workshop organized in Puerto Montt on January 2007, provided the right opportunity to get all stakeholders together, inform them about the project, and most importantly, give them the chance to air their views and articulate their worries.

Participants in the First International Darwin Workshop "Reducing the Impact of Exotic Aquaculture on Native Aquatic Biodiversity", held at Puerto Montt , Chile (17-18 January 2007)

The workshop included a two-day public conference opened by the Rector of the University of Los Lagos (Dr. Raul Aguilar) and led by Professor Ian Fleming (Canada), who provided an incisive insight into cultural invasions and the implications of fish escapes from aquaculture. The conference provided students and stakeholders with an opportunity to listen to 22 national and international speakers, and to find out more about the impact of salmonid escapes in other countries. The overall impression was that the workshop was a success, and the group discussions ended with a joint statement endorsed by all stakeholders[8]. The conference presentations were attended by an active and participative audience of about 50 people, including

8 Joint statement and conference abstracts available at http://www.biodiversity.cl/

representatives from industry, NGO's, academia, government, sport anglers, as well professional (artisan) fishermen.

Mr. Eric Vargas, a native Mapuche chief and president of a national union opposing the spread of the salmon industry, closed the conference with a passionate and emotive speech. "If things go badly", he said, "the salmon industry will pack and go. But we will have to stay". In the end we got the impression that we had just made a start in the right direction, and that support from stakeholders will prove critical towards achieving the project goals in these troubled waters. ■

Counting bats in the heart of Transylvania

Kate Jones (Zoological Society of London[9]) and Colin Catto (Bat Conservation Trust[10])
Project ref.: 162/15/033

BATS face an uncertain future with global warming and increasing human population pressures likely to impact their populations. Monitoring bat populations is critical to both inform and influence conservation policy and to ensure resources are directed to where they are most needed. Bats are also good indicators of general environmental health as they are top predators of common nocturnal insects that are themselves sensitive to pesticide usage, land use practices, water quality and microclimates. Our project "*Monitoring Bat Biodiversity: Indicators of Sustainable Development in Eastern Europe"* is a partnership between Zoological Society of London (ZSL) and Bat Conservation Trust (BCT). It aims to transfer bat monitoring expertise developed in the UK to leave behind a legacy of sustainable national monitoring in Romania and Bulgaria.

Colin Catto (centre) training the Romanian surveyors

Bats use high frequency calls to forage at night and these 'echolocation' calls can be used to monitor different species. In the UK, for their National Bat Monitoring Program, BCT uses a network of hundreds of volunteers to monitor bats on foot using special detectors designed to hear high frequency sounds. However, Romania and Bulgaria have only a small base of bat enthusiasts and in order to deliver a national monitoring scheme, we had to think of a better technique to deliver country wide monitoring. We decided simply to attach bat detectors to vehicles! A vehicle speed of 15 mph is slow enough to detect bats along a road and, if driven for between 1 and 2 hours, one vehicle can survey 15–30 miles per evening. Linking a global positioning system (GPS) to the detector means that geo-referenced locations of bat populations can be generated and so can be monitored over time.

In July 2006, we held our first training workshop trying this technique out with our partner organisation in Romania (Romanian Bat Protection Association,) in a tiny fishing village in Cefa, in the heart of Transylvania. Nine bat workers from throughout Romania attended and we provided them with sets of equipment, training in how they worked and how to collect data. We first set them off in practice runs around the village to see how well they managed. In order to geo-reference bat records it is important to start driving, start the GPS and start echolocation call recording simultaneously. This was quite a stressful experience at first which resulted in lots of screaming - both from car engines and the trainees! However, they soon got the hang of it and after the workshop was over, five separate teams have been enthusiastically collecting bat transects over the summer from all over Romania.

Romanian monitoring teams collecting a bat car transect

We will return to Romania in May to report on progress and offer another workshop for the Romanian new recruits. We are also heading to Rousse in Bulgaria to train a whole new set of bat workers in this technique with our partner organisations there (Nature Park Roussenski Lom, The Green Balkans and Institute of Zoology, Bulgarian Academy of Sciences). We hear that the project has already created quite a stir in Bulgaria with even the British Ambassador wanting to take part! See more information on our project website (http://www.ibats.org.uk). ■

Bulgarians practicing for their car transects later this year

Indigenous vegetables in West Africa: an overlooked wild resource

Enoch Achigan-Dako (University of Abomey Calavi, Benin) and Margaret Pasquini (CAZS Natural Resources, University of Wales Bangor)
Project ref.: 162/15/003

UNTIL very recently, horticultural research and development in West Africa has focused nearly exclusively on a few commercially-important crops of temperate origin (such as cabbage, lettuce, carrot, tomato, and onion), overlooking the tremendous contribution to rural people's subsistence of indigenous plant resources collected from the wild, both in the dry and wet seasons. West Africa holds a considerable reserve of vegetable plant diversity, a reserve which is, however, fast disappearing, through the combined effects of climate change, deforestation and land clearing, overgrazing and in some cases, intensive aggressive harvesting. At the same time, food habits

9 http://www.zoo.cam.ac.uk/ioz/
10 http://www.bats.org.uk/

have been evolving, particularly amongst the young urban population which has come to prefer quick 'modern' dishes prepared with temperate vegetables to the often more laborious traditional vegetable dishes, which may also be perceived as 'old people's food' or 'poor man's food'. These changing preferences mean that the knowledge about which plants can be used and how they should be prepared is lost, as it is no longer transmitted from generation to generation.

The leaves of the baobab tree *Adansonia digitata* are widely used as a vegetable in Benin and Mali (Photo courtesy of F. Assogba-Komlan).

The Darwin Initiative project on "*Conservation of biodiversity in traditional West African vegetable species*" (May 2006 – April 2009) proposes to remedy the situation by: 1) carrying out a survey of traditional knowledge and inventory of the indigenous vegetable crops used in Benin and Mali; 2) establishing seed banks and domesticating selected threatened species; 3) promoting their value to producers and consumers.

Focus group with the Ani community in the village of Wellan, Benin, to identify traditional vegetable species (Photo courtesy of F. Assogba-Komlan).

In this first year Benin and Mali partners have been carrying out surveys amongst producers and consumers in villages and towns, and amongst market retailers, to identify which plants are known and used, the uses, preparation and consumption, the cultivation techniques, the perceived threats and conservation measures, and the marketing issues. The surveys are being complemented by seed and sample collection missions, showing quite a diversity of useful vegetable species, ranging from weedy plants such as *Ceratotheca* spp, *Cassia obtusifolia*, or *Portulaca oleracea*, to vines such as *Cissus populnea or Momordica charantia*, to tree species such as *Vitex doniana* or *Ceiba pentandra*. For example, the collection mission in 12 villages in the north of Benin resulted in 145 herbarium samples, 42 seed samples and 6 vegetative samples. Villagers listed between 35 and 52 different species, significant proportions being wild resources (34% to 74%). Knowledge was often village-specific. For example, the Ani ethnic group used *M. charantia* both as a vegetable and for its medicinal properties in one village, but in another, only for medicinal purposes.

Justicia tenella a vegetable used in Benin (Photo courtesy of F. Assogba-Komlan).

Surveys and collection missions are ongoing in both countries, as are the data analysis and species identification. In the coming year, the project will undertake on-station and participatory domestication trials of selected wild species, which are reported to be disappearing, a measure which will contribute to food security and support communities to conserve and protect their wild resources. ■

Progress in achieving official protection for the largest wetland in the world

Dr Natasha Semenova, Professor Elena Lapshina, Dr Susan Shaw, Dr Bryan Wheeler (University of Sheffield, UK in collaboration with Tomsk State University, Russia)
Project ref.: 162/6/081

THE Darwin project "*Bogs of Tomsk Province, Inventory, Assessment and Biodiversity Action Plan*" ran from 1997 to 2000. The main output from the project was an "*Action Plan for the Conservation of Biodiversity of Wetlands in Tomsk Province (Siberia)*", which put forward a series of actions needed to ensure protection of these globally-important mires. Three of these action points involved the Great Vasyugan Bog (Vasuganskoe) in southern Siberia.

The Great Vasyugan Mire, located in the southern part of the West Siberian Plain, is thought to be the largest wetland in the world. This single mire complex comprises almost 2 % of the total peatland area of the world.

In addition to the large populations of globally-rare animal and plant species, the mire complex is characterized by a large diversity of surface patterning. In this respect, and in its location on the junction between boreal forest and steppe, the Great Vasyugan Mire resembles the well-known, but much smaller, Red Lake Peatlands in Minnesota (USA). The vast extent of the mire has permitted the development of impressive macro-patterns on the surface, on a scale that can only be really appreciated from satellite images.

We are delighted to report that official agreements in Tomsk Oblast have at last been completed and the special protected area (regional landscape Zakaznik) was declared in March 2006 with a total area of 509,045 ha. About 10% of the Great Vasyugan

Mire was nominated as a special protected area of regional value. The agreements include many restrictions on the use of resources by the many user-groups, including hunters and foresters, as well as on its use for scientific research. No prospecting or exploitation of mineral resources will be permitted in the area.

A longer article describing the background to this project, and current activities to designate parts of the mire as a Ramsar Site and as a World Heritage Site, is available on the Darwin website[11]. ■

New endemic species of deadnettle and buttercup found in Mongolia

Dr Sue Shaw, University of Sheffield, UK
Project ref.: 162/11/025

IN June 2004, Russian, British and Mongolian scientists involved in the Darwin Initiative project "*Cross-border conservation strategies for Altai Mountain endemics (Russia, Mongolia, Kazakhstan)*" carried out a field survey within Bayan-Ulgiy and Hovd Aimaks (provinces) in north-western Mongolia. The main objective was to study further the distribution of endemic plant species of the Altai Mountains and to identify their altitudinal distribution and habitat range. During this work, we observed two unusual species which we felt merited detailed examination.

1: Location of new endemic species of deadnettle and buttercup found in north-western Mongolia.

2. *Lagopsis darwiniana* Photo: A.I. Pyak.

One of them is an attractive species of the deadnettle family (Lamiaceae), which grows in open, stony places at altitudes of 1600 – 2700 m. Further study of fresh material and herbarium collections in Tomsk, Novosibirsk and Moscow (where we found four specimens collected earlier but identified as *Lagopsis eriostachya*), enabled us to describe it as a new species. We have named it *Lagopsis darwiniana* A.I. Pjak in honour of the Darwin Initiative. A paper giving details of the new species will be published in the botanical journal "Kew Bulletin" later this year.

11 http://www.darwin.gov.uk/news/projects/vasyugan_mires.html

3. *Ranunculus saposhnikovii*. Photo: A.I. Pyak.

The second species is from the buttercup family (Ranunculaceae), and was found growing on shingle in the bed of a river flowing off the south-western flank of Tsanbagarav mountain. It has been named *Ranunculus saposhnikovii* Schegoleva in honour of the outstanding Russian botanist Vasily Sapoznhikov (1861–1924) who was one of the first researchers to study the Mongolian Altai. A paper giving the full description of this new species has been published in the botanical journal of the Herbarium of Tomsk State University "Systematicheskie zametki" (Systematic notes).

These species are two of over 280 Altai endemics described and illustrated in a forthcoming publication written by participants in this project. The book, "*Endemic Plants of the Altai Mountain Country*", will be published by WILDGuides, and is expected to be available in Spring 2007[12]. ■

12 http://www.wildguides.co.uk/

Darwin Initiative contacts

Defra Darwin Initiative Secretariat
Defra — Tel. +44 (0) 207 238 5256
International Biodiversity Policy Unit — Fax. +44 (0) 207 082 8436
darwin@defra.gsi.gov.uk
Darwin Initiative Secretariat
Area 3D, Third Floor, Nobel House
17 Smith Square, London SW1P 3JR

Applications information and procedures
Eilidh Young
ECTF Darwin Applications Management
Pentlands Science Park, Bush Loan, Penicuik, Edinburgh EH26 0PH
Tel. +44 (0)131 440 5181
Fax.+44 (0)131 440 5501
darwin-applications@ectf-ed.org.uk

Monitoring and Evaluation programme
Eilidh Young
ECTF Darwin Monitoring and Evaluation Programme
Pentlands Science Park, Bush Loan, Penicuik, Edinburgh EH26 0PH
Tel. +44 (0)131 440 5181
Fax +44 (0)131 440 5501
darwin-projects@ectf-ed.org.uk

Darwin News and website
David Baird — **dave@zerofive.co.uk**