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## Darwin Initiative Final Report Format

Dear Colleague

Darwin Initiative Final Reports are **due within 3 months of project completion** and should be presented according to the information below and as per the format and guidelines provided overleaf. They should be completed by project leaders with input from overseas partners where possible.

If you are unable to submit your report by the agreed deadline, please contact ECTF and Defra to discuss a revised date for submission. Failure to do so might impact on the availability of a suitable reviewer outside the agreed timeframe and could lead to delays in having your report reviewed, and consequently, in your receiving feedback.

Please note that the project cannot be signed off until ECTF receives a satisfactory review of your final report. Defra reserve the right to with-hold the final 10% of your final year's grant if reports are submitted late without prior agreement of the Darwin Secretariat and ECTF. For reports that are not submitted in the format requested or contain insufficient information on methodology or other aspects of the project we reserve the right to request resubmission.

Any invoices or financial statements should not be included with your report but sent to the Darwin Secretariat.

### **Format:**

- Please provide a **structured report of approximately 20-30 pages in length** set out under the section headings that follow and presented with cover sheet (plus Darwin logo), contents page, and page numbers.
- Each section should discuss the issues and queries we have raised (bullet points) unless they are not relevant to your project. **Please do not re-state these queries** within your report.
- In addition, final reports should also address comments and issues raised in reviews of your project annual reports, and, where applicable, should summarise actions taken during the lifetime of the project in response to reviewers' recommendations.

**COVER SHEET FOR DARWIN INITIATIVE FINAL REPORT ON  
PROJECT 162/08/038**

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**Enclosures: copies of publications numbered 1-42**

# ***Darwin Initiative for the Survival of Species***

## ***Final Report***

### **1. Darwin Project Information**

Project Reference No.	<i>162/08/038</i>
Project title	<i>Conservation of Plant Diversity of western Cameroon</i>
Country	Cameroon
UK Contractor	Royal Botanic Gardens, Kew
Partner Organisation (s)	National Herbarium of Cameroon, Yaounde
Darwin Grant Value	£121,947.00
Start/End date	1 <sup>st</sup> Nov. 1999-20th Dec. 2004
Project website	<a href="http://www.kew.org/scihort/wta/">http://www.kew.org/scihort/wta/</a>
Author(s), date	Martin Cheek, Feb. 2005

### **2. Project Background/Rationale**

The project covered South West and North West Provinces of Cameroon (i.e. western Cameroon). This area was shown to have the highest concentration of plant species per degree square in Tropical Africa. Many of these plant species are restricted to small parts of the area and so are vulnerable to extinction. The main threat was and is felling of forest followed by establishment of subsistence agriculture. The project addressed the problem of the threat of extinction to the plant species of this area.

The need for this project was identified by R.B.G., Kew after discussions with partners in Cameroon. Demand for the work is shown by the invitations of those partners managing protected areas to host our inventory teams at their sites, and to obtain reports detailing e.g. Red Data species present at these sites. Our main local partner, the National Herbarium, has shown commitment by supplying enthusiastic and hardworking staff for our joint expeditions, by doing much of the organizing of venues for our training sessions in Yaounde, by organizing permits for research and export of specimens, by supporting grant applications to other sponsors, by initiating meetings with other potential western partners.

### **3. Project Summary**

The purpose/objectives of the project was/were to develop further the National Herbarium of Cameroon at Yaounde (hereafter HNC) as the national centre for plant diversity assessment by: full involvement with the "WCam" (abbreviated version of our project's title) project and to foster communication with the three protected area

conservation projects; to compile a taxonomically up-to-date checklist of species in W. Cameroon; to generate 3 individual “protected area” checklists; to use information from the checklists to enhance conservation by identifying, locating and mapping conservation priority species, advising conservation bodies on management of priority species, proposing key areas for conservation and producing conservation posters.

No “logical framework/logframe” was requested, as such. The project implementation timetable and schedule (hereafter PIT) is included as appendix V since this is what we are reporting against.

There have been no major modifications to the objectives during the project period, nor any suggestions that any be made.

Of the three milestones scheduled for completion in the original project implementation timetable by Dec. 03, one: descriptions of species new to science completed, was done ahead of schedule insofar that this was done, and far surpassed, re the numbers of species envisioned in the PIT. For another, completion of three local protected area checklists, the first was published ahead of schedule in 2000, but the second and third checklists were delayed in publication until Dec. 04, for reasons elucidated below.

1. We were diverted by writing papers describing the numerous new species to science, many of which are threatened. With hindsight it would better to have halted work on this once the original target had been met.
2. The additional expeditions that were mounted provided important material for inclusion in the checklists but delays in getting the permits to send the specimens to Kew had a knock on effect re checklist publication.
3. We were over-optimistic generally about the time needed to: a) process spms for identification; b) write the introductory chapters, especially those regarding Red Data taxa and Vegetation chapters; c) obtain text from external contributors; d) the time needed to have the texts externally reviewed, internally checked for formatting, the time needed e.g. to prepare the index.
4. Once the original deadline, for production of final outputs, of Dec. 03 was passed, clashes with other institutional non WCam projects ensued, slowing progress considerably.

The third milestone, a regional checklist, dependent on preparation of the local checklists, was accordingly also delayed in completion.

Tacit approval for the extension of the deadline of the WCam project from that originally foreseen in the PIT (Dec. 03 for production of final outputs) was taken from the non-objection to letters sent to the secretariat from RBG, Kew explaining that the WCam project was still a “live project” (e.g. Des Bennett to Sarah Moon dated 24 Feb. 2005).

Our project is best described by Article 7 of the CBD: identification and monitoring “identify and monitor components of biological diversity, particularly those requiring

urgent conservation action; identify processes and activities that have adverse effects; maintain and organize relevant data". However, our project also addresses Articles 8, 9, 10, 11, 12, 13, 15, 16, and 17.

The project was successful and is being successful at meeting all its objectives (one final output is to be distributed within the next month), as follows:

*The purpose/objectives of the project was/were to develop further the National Herbarium of Cameroon at Yaounde (hereafter HNC) as the national centre for plant diversity assessment by:*

*full involvement with the "WCam" (abbreviated version of our project's title) project* HNC were involved in all project fieldwork from co-leading to processing specimens: almost every member of HNC staff joined in this work from the Chief to the yardboy. Six HNC staff and research associates visited RBG, Kew during the course of the project and numerous co-authored papers between HNC and RBG, Kew staff, outputs of the project, are published or in press.

*and to foster communication with the three protected area conservation projects;* the staff of the protected area projects joined the fieldwork with the HNC staff; later they visited the HNC in order to deposit specimens for permitting and identification, and also to attend the two training periods conducted with HNC staff as organisers, in Yaounde.

*to compile a taxonomically up-to-date checklist of species in W. Cameroon;* This output will be distributed next month with HNC staff as co-authors since they helped to compile and write it.

*to generate 3 individual "protected area" checklists;* These outputs were all completed with assistance from HNC staff and associates. This took the form of HNC staff naming at RBG, Kew some major plant groups, e.g. Pteridophytes and Compositae, as well as families such as Violaceae, Burseraceae and Rubiaceae (Rothmannia, Oxyanthus and Sherbournia). HNC staff were accordingly co-authors or authors on many of the family accounts and the books themselves.

*to use information from the checklists to enhance conservation by identifying, locating and mapping conservation priority species,* The checklists include chapters on conservation priority plant species, namely plant species that are threatened with extinction under the IUCN (2001) criteria. Such species were identified by screening the species present in each checklist. These chapters include information on the location of the species, and a subset of the species have been mapped, usually those were published as new, or featured in conservation posters. The two most senior HNC staff were given basic training in GIS that gave priority to species mapping and returned to Cameroon with the necessary hardware and software to do this.

*advising conservation bodies on management of priority species,* Conservation bodies were advised on management of such threatened species through the Red Data chapters in each of the conservation checklists. In these

chapters, both threats and management suggestions are given for each species.

*proposing key areas for conservation and*

Apart from publishing the conservation checklists for different areas in Cameroon, we also produced, at the request of several of the NGO-conservation bodies (e.g. those managed through WWF-Cameroon and BirdLife International), placed in different parts of Cameroon, assessments of the conservation value of those areas. This led to three areas being either formally protected by government or placed on the path to protection.

*producing conservation posters.*

A series of seventeen species-specific conservation posters were designed, mostly by Ben Pollard, for use by local communities through their conservation projects. Their purpose was to educate the reader as to the rarity and limited geographical distribution (e.g. a single tribal area) of some plant species, so as to foster a sense of pride and interest in some of the species in an area of conservation interest and so to foster an understanding in the need for their protection.

Significant additional accomplishments were:

National Herbarium of Cameroon government-funded, permanent researchers increased from 2 to 5 (3 new doctoral-level staff appointed) and core funding from government to the National Herbarium proportionately increased.;

Co-ordination of Cameroon Government Ministry of Research & Science biodiversity programmes now transferred to National Herbarium of Cameroon.

Two week Herbarium Techniques course organized in Cameroon, taught by 7 staff from RBG, Kew in collaboration with National Herbarium Cameroon colleagues; The first Herbarium Techniques course held in West-Central Africa.

First Red Data assessment training workshop for plants held in West-Central Africa, participants subsequently making their own assessments and publishing them in peer-reviewed scientific journals. One of the attendees, J.M. Onana, has subsequently made solid progress writing a guide to the Threatened plant species of Cameroon, using the IUCN (2001) standard.

Four new protected areas created or in the process of being created by the Cameroon government due to data on plant diversity gathered in the course of the project.

Conservation status assessments of >3000 species making our project the main source of Red Data assessments for plant species in West-Central Africa in recent years, including countries as distant from Cameroon as Guinea-Conakry. 325 Red Data assessments made and submitted to and accepted by IUCN using IUCN (2001) standards and a further 2840 species level conservation status assessments were made, for which full IUCN paperwork has not been completed.

23 extra peer reviewed papers describing new species (total of 35 papers).

2996 extra historical specimens databased for repatriation (total of c. 11996);

Three extra botanical survey expeditions to Cameroon (total of six);

84 extra weeks spent by RBG, Kew staff in Cameroon (total of 108 weeks).

#### 4. Scientific, Training, and Technical Assessment

This was primarily a scientific research project, and not a training project. Our full account of the projects research training and technical work is structured on a year by year basis:

Year 99-00

All milestones for year achieved:

1<sup>st</sup> Nov. 1999. Began expedition to undercollected areas in western Cameroon with National Herbarium and Earthwatch fellows.

21<sup>st</sup> Dec. 1999. Concluded expedition. 1204 specimen numbers collected from areas associated with two local conservation projects (Kilum-Ijim and Mt Kupe-Bakossi). Expedition reports produced. Two articles publicising project published in Cameroon national newspapers.

14<sup>th</sup> Feb. 2000. Darwin full-time Scientific officer began at RBG Kew. Specimen identification and databasing began.

22<sup>nd</sup> Feb. 2000. Darwin part-time Assistant Scientific Officer began at RBG Kew. Databasing of historical specimens from western Cameroon housed at Kew began. During Feb. & March 2000, four papers describing new species from western Cameroon were submitted for publication.

During Feb. & March 30<sup>th</sup> 2000, baseline maps of vegetation, climate and elevation had been produced by Justin Moat.

Year 00-01

Ben Pollard made a poster presentation featuring the “WCam” project at the public Earthwatch Millenium Conference at Oxford in April (additional output).

In April the decision was taken to concentrate efforts on naming specimens and describing species from the Mt Oku area, so as to be able to produce one of the key outputs (a protected area “conservation checklist”) ahead of schedule. This decision was prompted by:

an expression of keen interest from BirdLife International, who manage the protected area project responsible for the Mt Oku area (i.e. the Kilum-Ijim Forest Project) and

our estimate that 96% of the natural vegetation of the Bamenda Highlands (in which Mt Oku falls) has been destroyed.

our GIS studies that show that surviving natural vegetation in the area is still being lost at a high rate.

BirdLife offering to make a contribution to the publishing costs of the book.

Accordingly “The Plants of Mount Oku and the Ijim Ridge, a Conservation Checklist” was published in August 2000 after four months of extremely concentrated effort at RBG, Kew. Data gathered in the first Darwin expedition to Cameroon in November 1999 forms an important part of the book. This book enumerates the nearly one thousand species of the area including c. 20 new to science (some published as separate papers by us). It also includes 52 detailed Red Data taxa assessments, mostly for endemic species never previously assessed, using the latest IUCN criteria. IUCN have already adopted our Red Data assessments for these taxa (see

[www.redlist.org](http://www.redlist.org)).

The book was promoted at the triennial AETFAT (Association Etude Taxonomique Flore D'Afrique Tropicale, i.e. association for the study of tropical african plant taxonomy) congress in Brussels in August 2000 and is already being used as a model to acquire and present data for protected area inventory work in Southern Africa. A checklist for an area in Venezuela, published in USA in 2001, is clearly influenced in structure by the Mt Oku book. Advance copies of the Mt Oku book were sent to the libraries of the national herbaria of ten African countries via delegates at the AETFAT congress. The book received a lengthy and favourable review in *Taxon* (the journal of the international association of plant taxonomists) followed by one in *Plant Talk*, in February 2000 and is selling steadily. It was launched formally at R.B.G., Kew in September 2000 with a representative from the Cameroonian High Commission. 50 copies were taken out to Cameroon for presentation to libraries, local community, government forestry and media representatives in the Mt Oku area and to national representatives in the capital. A stock is held for sale by the Bamenda Highlands Forest Project for purchase in Cameroon at 10,000 fcfa per copy.

We learnt in June 2000 that the data we had provided to BirdLife International on threatened species of Mt Oku (see annual project report to Darwin Initiative 99/01) had helped to obtain a 1 million dollar grant from UNDP-GEF which will secure the future of the Kilum-Ijim Project, and so the natural vegetation of the Mt Oku area, for the next four years (additional output).

In July two Nuffield (A-level ) students were assigned to the "WCam" project for a month. One student designed a third conservation poster for use in Cameroon following the pattern used for the posters we produced in 99/01 which were found to be extremely effective by the Kilum-Ijim Forest project (John DeMarco, pers. comm.). The other student produced as her project a guide to the identification of the upper montane tree species of the Bamenda Highlands for use by conservation technicians in Cameroon. Both products were delivered in November 2000 to Bamenda Highlands Forest Project and were well received.

In August, two presentations (one poster, one lecture) arising from the "WCam" project were prepared for the AETFAT congress in Brussels, and duly delivered. This proved a useful opportunity to publicize the Darwin Initiative Project. One paper was submitted for publication in the proceedings (see App. III). At the congress copies of the newly signed MOU between RBG, Kew and the mother organization (IRAD) of Herbar National Camerounais were exchanged with Dr Achoundong, head of HNC, culminating 12 months of negotiation.

In the period September-March five papers (four were scheduled) describing a total of eight new taxa (including one new genus) and giving conservation assessments where appropriate, were submitted for publication (see App. III).

In October, Darwin Officer Ben Pollard departed for Cameroon to prepare the way for the second Darwin botanical inventory expedition to western Cameroon to be held in November-December (see expedition report). These expeditions are carried out jointly by Herbar National Camerounais and R.B.G., Kew. Two new areas, each



administered by conservation projects (The Bamenda Highlands Forest Project and the Banyang Mbo Wildlife Sanctuary project) with whom links had been newly established in the last year, were inventoried. Teaching of trainees in botanical inventory for conservation management continued. The expedition featured the highest representation of Kew staff in Cameroon then ever known (6 staff) including Prof. Simon Owens, Keeper of the Herbarium, who was monitoring the project. Prof. Owens started his visit by an inspection of the National Herbarium in Yaoundé and meetings with IRAD, the British High Commission and with CBD personnel. He also gave a lecture to students at the Ecole Normale.

1252 specimens were collected. The top set went to HNC in December. Subsets of duplicates were deposited with the two projects whose forests were being inventoried.

In January we learnt from WWF Cameroon that the 12 page report that we had provided them on the conservation importance of the Mt Kupe-Bakossi area (see annual report 99/00) had led to the gazettelement by the Ministry of the Environment and Forests (MINEF) of two areas previously lacking formal conservation designation (additional output).

In February the Minister of the Environment and Forests, with a delegation from MINEF visited RBG, Kew for a presentation of our work in Cameroon followed by a meeting of the UK Tropical Forest Forum. This topic was the subject of our press release for the year. The Minister later invited us to extend our work to francophone Cameroon, specifically to a proposed new National Park near Yaounde, at Mefou. Databasing, geocoding and bar-coding of the estimated 9,000 historic herbarium specimens from western Cameroon at R.B.G., Kew is on target. By the end of March 2000, Suzanne White had entered 4355 specimens leaving 4645 specimens to be completed by the end of February 2001.

#### Year 01-02

Databasing, geocoding and bar-coding of the project target of 9,000 historic herbarium specimens from western Cameroon at R.B.G., Kew was completed by Suzanne White by the end of her Darwin funded contract in February 2002. The decision was taken not to expand the work to the British Museum of Natural History after a pilot study of several families there showed that almost no specimens additional to those already databased at Kew were present at BM for the provinces of Cameroon that are the subject of this study. The figure of 9,000 historic specimens from the area at Kew has proved to be an underestimate..

Repatriation to Cameroon of photographic prints of type specimens from the wcam area from Kew continued, with the delivery to YA of the second tranche of these. As part of the process of gridreferencing specimens, Suzanne White developed a collections gazeteer which may have applications outside this project and may be published.

Nine papers were submitted during the reporting year in which new species were described, exceeding the target of four papers (see project schedule attached). These papers are listed later in this report. Only one paper was published although four were forecast. This is because four papers (and one book) were published earlier than expected, in the previous reporting year, so that the project is still ahead

of its paper publishing target by one paper.

Ten new conservation posters were compiled and designed by Ben Pollard following the model developed and field-trialled for that featuring *Kniphofia reflexa* last year.

A third expedition with the National Herbarium of Cameroon to under- or uncollected parts of the project's area was executed successfully including rapid habitat assessments of new areas and training of technicians in basic specimen preparation, databasing and identification (see expedition report).

Much of the year was spent in identifying specimens and writing species accounts and Red data assessments for the next projected "Conservation Checklist" (one of the main project outputs), namely that for Mt Kupe and the Bakossi Mts. In the course of this work higher than expected numbers of new species were discovered, resulting in the larger than anticipated number of papers submitted describing new species. Preparation of these papers slowed down the rate of identifications but nonetheless the project was considered on schedule. Identifications and species accounts are being entered into a database and a draft checklist account has already been produced from that.

Major additional outputs this year were the visits from Cameroon to the Kew Herbarium of four National Herbarium staff and associates funded by R.B.G. Kew grants to pursue collaborative studies with Kew scientists on the plant diversity of western Cameroon. These were:

Jean-Michel Onana (funded by the Brenan Fund of the Bentham-Moxon Trust) who spent one month identifying specimens of the major groups Compositae (with Henk Beentje) and Pteridophytes (with Peter Edwards) for the Kupe-Bakossi checklist of which he will be co-author, and also on a paper describing a new species of *Dacryodes*.

Dr Gaston Achoundong (funded by the Keeper's fund) spent a week identifying *Violaceae* e.g. from the Kupe-Bakossi area and discussing future collaborative possibilities, such as a joint Kew-National Herbarium herbarium techniques course at Yaounde.

Jean-Paul Ghogue (funded by Bentham-Moxon Trust) spent several days working with Kaj Vollesen on a paper describing a new species of *Justicia*.

Dr Bonaventure Sonké (funded by the Keepers fund) spent a week working on *Rubiaceae*, including checking a draft of his paper on *Tricalysia* with Martin Cheek, and identifying specimens of *Oxyanthus*, *Rothmannia* and *Aulacocalyx* for the Kupe-Bakossi checklist. He will be co-author of the *Rubiaceae* account for this book.

The training element was carried out in Cameroon 2001 in October and as part of the expedition following a system developed over several years on annual expeditions to Cameroon funded by the Earthwatch Institute. Three groups of people were trained;

- A. Junior National Herbarium staff (training in specimen databasing and basic plant family identification skills). These were selected by Dr Achoundong, Head of the National Herbarium.
- B. Local Cameroonian conservation project staff (training in botanical inventories

for conservation management). These were selected by John DeMarco, co-manager of the Bamenda Highlands Forest Project (a local protected area project for which we are conducting botanical inventories).

- C. Ghanaian, Kenyan, Malagasy, Sudanese and Ugandan botanists sent to Cameroon for two weeks training with us by the Earthwatch Institute ("Earthwatch Fellows"). These were selected by a co-ordinator in each of these countries working with Robert Llewellyn-Smith, African Fellow Programme Manager at the Earthwatch Institute, Oxford.

A formal programme of lectures and practical demonstrations was given over two two week periods. For most topics, such as specimen databasing, a demonstration would be given, followed by a question session. Following this, trainees would have the opportunity for "hands-on" databasing, using real field-books to enter on our field lap-top computers under the supervision of our database people. This was followed by short tests. The programme was maintained as an addition to the botanical inventory work which remained the main purpose of the expedition.

No significant difficulties were encountered during the year.

Main achievements for the year for the project were to obtain more resources so as to increase capacity building for National Herbarium staff (see visits from National Herbarium staff above) and to speed up delivery of outputs, such as protected area "conservation checklists".

#### Year 02-03

The ongoing success of the Wcam project contributed directly to the setting up of a new core-funded regional team, as part of the structuring of science departments at RBG, Kew (01/02). The team is currently focussed on Cameroon, but has a remit for the Wet Tropics of Africa (WTA). As part of this restructuring, two extra staff were scheduled to join the permanent team, and as part of their remit to assist in the Wcam project. These staff are:

1. Yvette Harvey, Higher Scientific Officer with considerable experience of African Tropical Plant taxonomy who began with WTA in April '02.
2. Iain Darbyshire, Assistant Scientific Officer, newly recruited to RBG, Kew, who joined WTA after completion of basic training in Jan. '03.

In April and May 02, the fourth expedition (additional output) with the National Herbarium of Cameroon to NW Province was executed successfully, led by Ben Pollard, Gaston Achoundong and Louis Zapfack, including conservation assessments for species shown by earlier fieldwork probably to be threatened, rediscovery of one species previously thought extinct, rapid habitat assessments of new areas and training of technicians in basic specimen preparation, databasing and identification (see below and expedition report attached).

The training element of the expedition was carried out in Cameroon following a system developed over several years on annual expeditions to Cameroon funded by the Earthwatch Institute. Three groups of people were trained;

- D. Junior National Herbarium staff (training in specimen databasing and basic plant

family identification skills). These were selected by Dr Achoundong, Head of the National Herbarium.

- E. Local Cameroonian conservation project staff (training in botanical inventories for conservation management). These were selected by John DeMarco, co-manager of the Bamenda Highlands Forest Project (a local protected area project for which we are conducting botanical inventories).
- F. Ghanaian, Tanzanian, Malawian and Ugandan botanists sent to Cameroon for two weeks training with us by the Earthwatch Institute ("Earthwatch Fellows"). These were selected by a co-ordinator in each of these countries working with Robert Llewellyn-Smith, African Fellow Programme Manager at the Earthwatch Institute, Oxford.

A formal programme of lectures and practical demonstrations was given over a two week periods. For most topics, such as specimen databasing, a demonstration would be given, followed by a question session. Following this, trainees would have the opportunity for "hands-on" databasing, using real field-books to enter on our field lap-top computers under the supervision of our database people. This was followed by short tests. The programme was maintained as an addition to the botanical inventory work which remained the main purpose of the expedition.

In April-June 02 an Expression of Interest (EOI) was developed for the European Commission under FP6 as part of the exit strategy for the Wcam project. In essence the objective is to extend the work of the Wcam project with other European Institutes to cover neighbouring areas in the Gulf of Guinea, Tropical Africa's most diverse area for Rainforest. Sadly this did not result in a call for a suitable 'specific targeted action'. However at the time of writing there is interest in resurrecting the application to develop a similar project, specifically re the Rubiaceae, with Meise Botanic Garden.

In July 02, the then only two research staff of HNC, our main partner, visited RBG, Kew for basic GIS training with Justin Moat, and returned to Yaounde with hardware and software to set up a basic GIS facility at their institute. They are now able to do e.g. dot map production at HNC. Follow up GIS training (additional output) in Cameroon was given in March-April 03 by Susana Baena of RBG, Kew.

In Aug. 02 Ben Pollard concluded his contract with the Wcam project. He successfully interviewed for a new conservation post at Kew at a higher grade and at the time of writing is still in that post.

In Sept. 02 Martin Etuge, chief field biologist and herbarium manager at CRES, Nyasoso, Mt Kupe, visited the Kew Herbarium for training in specimen identification and species description with Martin Cheek (additional output). This was his first departure from Africa. Three papers were drafted of which he is co-author.

In Late Sept. 02 Dr Achoundong of HNC initiated a joint Kew-Paris-CIRAD/ORSTOM meeting at Kew Herbarium to discuss collaboration possibilities and past, current and planned work in the Gulf of Guinea area, with emphasis on Cameroon. This has since led to several collaborative schemes between Kew and

CIRAD re Cameroon.

In Oct. 02, seven staff from RBG, Kew arrived in Yaounde to prepare for teaching a two week course in Herbarium Techniques in Nov. (additional output). This initiative, largely funded by BAT International arose from the success of the current DI project and fits the wcam objective of developing the HNC.

Jan.-March 2003 inclusive saw an extension of databasing, geocoding and bar-coding of historic specimens at Kew beyond the project target of 9,000 specimens (i.e. additional to plan). Julian Stratton was employed, with funds from RBG, Kew, for these three months to continue full-time the work of Suzanne White (see previous reports). Julian was able to database and geocode the remainder of the dicot. families and most of the remaining monocot. Families, amounting to an additional 2996 specimens. He also continued the procedure for photographing type specimens for repatriation. A further tranche (c. 80) photographs was repatriated to the head of the National Herbarium of Cameroon in a ceremony at the end-of-project workshop in Yaounde in March/April 2003.

The end-of-project workshop, held in March/April 03 (postponed from the previous August so as to be closer to the actual end of the project) hosted a larger number of participants for a smaller number of days than originally planned. The duration was reduced on advice from cameronian partners, principally Dr Achoundong, but was adequate to meet the objectives of discussing the projects achievements and giving basic training in e.g. Red Data assessments. It was also very successful in obtaining media coverage (see App. II). One repeated suggestion made at the workshop for future work was to extend the Wcam project to cover eastern Cameroon as part of a future project.

A very worthwhile outcome of the workshop was that two of the participants (Sonke and Onana) went on to independently make IUCN (2001) level conservation assessments for taxa and to get these published.

Since four Kew staff were in Cameroon for the workshop, the opportunity was taken to go out ahead of this and mount a fifth expedition with HNC (additional output), funded and volunteered by Earthwatch, to Nyandong in the most underbotanised part of Bakossi at the request of CRES, the local environmental NGO active in the area.

Nine papers were submitted, in which were 11 new species (one a new genus) during the reporting year, exceeding the target of four papers (see project schedule attached). These are listed later in this report. Fourteen papers, including 17 new species (another a new genus and tribe) were published, also exceeding the target of four. The project is ahead of its paper-publishing target by eleven papers. Most of these papers include conservation assessments of the species they describe following IUCN 2001 criteria.

Batches of the species-specific conservation posters compiled and designed by Ben Pollard during this project were sent to local projects for use (e.g. Kilum-Ijim Forest

Project).

As in the previous reporting year, much of the year was spent in identifying specimens and writing species accounts and Red Data assessments for the next projected "Conservation Checklist" (one of the main project outputs), namely that for Mt Kupe and the Bakossi Mts. Again, in the course of this work higher than expected numbers of new species were discovered, resulting in the larger than anticipated number of papers submitted describing new species. Preparation of these papers again slowed down the rate of identifications but nonetheless the project seemed on schedule due to an increase in staff resources from RBG, Kew. Identifications and species accounts were steadily being entered into a database from which a draft checklist account had already been produced.

Year 03 - end 04 ( end of project)

Mme Nana of HNC attended the Herbarium Techniques workshop at RBG, Kew 1 June-26 July 03 (additional output, funded by RBG, Kew). Owing to her central role in organizing the course in this subject in Yaounde she had not herself been able to benefit from that course.

Rita Ngolan, ecomonitor-biologist of the Kilum Ijim Forest Project was funded by RBG, Kew to attend the Plant Conservation Course at RBG, Kew 4 Aug-28 Sept. 03, as part of which she did a project delimiting taxa and assessing their conservation status in the in the Doyvalis spinosissima complex, including the recognition of a new species from the Cameroon Highlands. The resultant paper is now in press. Additional output.

21-27 September 2003 saw the triennial AETFAT (Tropical African Botany) congress in Addis Abeba, which concluded with a vote that the next congress, in Feb. 2007, should be held in Yaounde, Cameroon under the General-Secretaryship of Dr Achoundong. This will be the first time that the congress has been held in francophone Africa, and also the first time that it has been held in West or West/Central Africa.

Dr Achoundong visited RBG, Kew for one week in 04 from WAG to discuss the possibility of Mellon funding for HNC under the API specimen digitisation project (part of project exit strategy) and to collaborate on a paper on Cameroonian *Rinorea*, since submitted for publication.

Dr Sonke, HNC research associate, spent several weeks in 04 at RBG, Kew collaborating on the publication of two new species of Psychotria, since accepted for publication.

Three Kew staff, Iain Darbyshire, Nina Ronsted and Dave Roberts spent 2 weeks on a sixth expedition (additional output) in May 04 at Bali Ngemba FR in NWP with HNC staff, notably Barthelemy Tchiengue, and ANCO staff, Terence Suwiny, to obtain more specimens, data and photos for the the Conservation Checklist that was then being developed. Improvements in streamlining of the CITES and export permit

process thanks to the initiative of Dr Achoundong at the end of project workshop meant that, rather than a delay of a year or more, the specimens arrived at Kew within weeks of collection and so could easily be processed, identified and incorporated into the book concerned.

Aug. 04 saw the launch of the "50 new species story" which was very successful in publicising to a wide audience in Britain and abroad the ongoing discoveries of new species and the need to conserve them and their habitat (see publications enclosed numbered \*22-35, 3 radio broadcasts were also made in the UK by Ben Pollard).

Much of 04 was spent finishing the two conservation checklist books that were finally published just before Christmas that year.

**Staff** involved have been as follows:

Martin Cheek, RBG, Kew core staff, WCam project leader, head of Wet Tropics Africa team 2001-present.

Ben Pollard, RBG, Kew Darwin Officer for Wcam project Jan. 2000-July 2002, now conservation projects co-ordinator, RBG, Kew.

Suzanne White, Kew Darwin Assistant Scientific Officer for Wcam project Jan. 2000-Jan. 2002 responsible for databasing historic specimens,

Julian Stratton, Kew-funded short-term Assistant Scientific Officer for Wcam project Jan. 2003-March 2003 responsible for continuing the databasing of historic specimens,

Tivvy Harvey, RBG, Kew, Deputy head of Wet Tropics Africa team 2002-present

George Gosline, RBG, Kew research associate, Cameroon dbase manager, specialist in Diospyros, Octoknema, Salacia, Annonaceae, taught specimen databasing to trainees in field and was also part of the Herbarium Techniques course teaching team.

Justin Moat RBG, Kew core staff, Head of GIS.

Iain Darbyshire, RBG, Kew core staff, assistant scientific officer. Jan. 2003-Aug. 2004.

Des Bennett, RBG, Kew core-staff, Projects and Tax Account (Project accounts)

Simon Owens, Keeper of the Herbarium, RBG, Kew (Monitoring project)

Daniela Zappi, Assistant Keeper of the Herbarium and Head of Regional Teams (Monitoring project)

Eimear Nic Lughadha, Science Co-ordinator (Project Scrutiny).

Lydia Elstone, herbarium Typist (typing manuscripts).

RBG, Kew staff involved in specialist identifications and/or producing species accounts: Barbara Mackinder (Legumes), Peter Edwards (Ferns and fern allies), Diane Bridson (Rubiaceae), Sylvia Philipps (Eriocaulons), Tom Cope (grasses), Petra Hoffmann (Phyllanthus), Gerardo Salazar, Phil Cribb and David Roberts (orchids), Kaj Vollesen (Acanthaceae), Sally Bidgood (Bignoniaceae), Roger

Polhill (Loranthaceae, Crotalaria), Cliff Townsend (Amaranthaceae, Mosses), Alan Paton (Labiates), Melanie Thomas (Urticaceae), Sally Dawson (herbaceous Rub.), Paul Wilkin (Dioscor.), Dave Simpson (Mapania-Hypolytrum), Brian Schrire (Indigofera), Henk Beentje (Compositae),

Teachers on the two week herbarium techniques course in Yaounde with Daniela Zappi, Simon Owens and with George Gosline were Eve Lucas and Brian Stannard.

**Methodology** adopted is detailed in Cheek, M. & Cable, S. (1997), Plant Inventory for conservation management: the Kew-Earthwatch programme in Western Cameroon, 1993-96, pp. 29-38 in Doolan, S. (Ed.) African Rainforests and the Conservation of Biodiversity, Earthwatch Europe, Oxford., a copy of which is attached as Appendix VI. In summary, the plant surveys executed as part of the project were specimen-based, and were conducted with the National Herbarium of Cameroon and local NGOs. Inventory teams of about 20 people were based in villages, in or at the edge of the survey area, for up to two weeks at a time, with six to ten local people being employed so that the community were involved and fully informed about our work in their forest. Teams included 6-12 Earthwatch volunteers or “fellows” (Conservation/botanical technicians from other African countries sponsored through Earthwatch for training in inventories for conservation management). Survey areas were selected on the advice of local conservation NGOs. Two to four independent subteams of 3-8 people including at least one local guide/tree climber were assembled at each base. Using telescopic pole pruners, a GPS and a full set of plant collecting equipment, each subteam patrols a different part of the inventory area, pursuing a river or path further each day. An experienced botanist co-ordinates collecting by directing collectors off the path at intervals, and records data from the resultant fertile specimens under a unique collector name and number for each in a Kew field book. Each subteam includes one or two press operators, who prepare specimens for pressing in cross-referenced newspaper flimsies. Each sheet is also labelled with a jeweller’s tag also bearing the collectors name and number. About five duplicates are made of each specimen number. Field books are entered into a database at the team base. After appropriate processing, and after duplicates have been removed for Cameroon, export and, where necessary, CITES permits have been obtained, the specimens are exported to RBG, Kew for naming. Generally, before naming specimens for a conservation checklist, it is most efficient first to have made several visits to an inventory area so as to have reasonable coverage of the plant species present both geographically and in respect of seasons, and to have a sufficient number of specimens to reflect the species present within the area. Identifications were made with the help of specialists, literature and historic specimens at RBG, Kew. Identifications were entered into the database referred to. In parallel the over 10,000 historic specimens from western Cameroon at RBG, Kew were databased and georeferenced. Short descriptions and ranges for each taxon were added to a species database linked to the specimen database. Each specimen was linked to a checklist/inventory area. Extraction of records from the database in the form of a checklist was then carried out. The conservation



status of each taxon was then assessed. Range restricted and rare taxa, usually those known from few specimen records were assessed using IUCN (2001) criteria. Introductory chapters for the conservation checklists were compiled so as to provide background information on e.g. geology, climate, soils and vegetation.

Species unknown to science were written up according to the usual protocols for publication in peer-reviewed journals. Selected species identified as threatened, usually those restricted to a single tribal area, were made the subject of coloured conservation posters. The resultant posters were sent to Cameroon for education purposes.

### **Research findings & extent of peer review.**

Our preliminary field research findings were documented in a series of six expedition reports which were included with previous annual reports. These were not peer-reviewed and can be considered as “grey literature”..

Our main research findings were published in three “conservation checklists” (see App III.), each dedicated to one of the three main sites of our fieldwork in western Cameroon . Each of these checklists was independently scientifically reviewed before being published. In addition, the Red Data assessments, key elements of each of these books, were reviewed before being published, by IUCN (Craig Hilton-Taylor).

In addition, discoveries of new species were published in peer-reviewed scientific journals. In all 35 papers, in 6 different journals. 39 new taxa (species, subspecies or varieties) were published, two of which include new genera, and one of which is a new tribe in its family. About five more papers are in press.

### **Technical Work**

About 5900 new specimen numbers were collected (excluding plot vouchers), mostly in sets of 4-5, databased, identified and used as the basis of our research findings above, together with about 12,000 historic specimens at the Kew Herbarium which were databased. The Access database on which the project is based now holds about 64,000 specimens, most of which relate to western Cameroon.

### **Training and capacity building activities**

Although these were not the main purpose of our project, in order to meet in country demand, a significant amount of training and capacity building was included. Assessment and accreditation were carried out where indicated.

Training in plant inventories for conservation management. As part of our fieldwork, 115 people were trained in two week sessions in this subject. While the main purpose was on the job training and experience in plant inventory, formal presentations were given throughout the period covering the rationale and the

various techniques used, from **specimen collecting techniques**, drying techniques, **specimen databasing**, survey strategy, **basic family identification** to the description of new species and assessment of Red Data status of taxa. At the end of the two weeks, students were tested and scored in those subjects marked above in bold. No external accreditation was used.

This training was developed for African Conservationists selected by Earthwatch Europe (co-ordination by Robert Llewellyn-Smith) assisted by Rosie Trevelyan of the Tropical Biology Association. Selection criteria for candidates were being technicians or students associated with extra-Cameroonian African Herbaria, mainly from Ghana, Uganda, Kenya, Tanzania, Zimbabwe and Malawi. At the request of our several Cameroon partner NGOs, numerous of their staff, c. 30 selected by them, were also attached to our expeditions for this type of training on most expeditions. Individuals and organizations attached to expeditions for this sort of training are detailed in the expedition reports sent in with previous annual reports, and summary information is given in this report on pp 5-11.

GIS training at RBG, Kew. The two researchers from the National Herbarium of Cameroon were given training and equipment for basic GIS work at RBG, Kew in 02, organized by Justin Moat, see above.

Training in writing species descriptions and preparing papers for publication at RBG, Kew was given on a 1:1 basis for five Cameroonian botanists at RBG, Kew, selected by us, , all of whom are now co-authors on peer-reviewed papers which they helped prepare as part of their training.

Herbarium Techniques Course, Yaounde. A two week course sponsored by BAT, taught by 7 RBG, Kew staff in 02 was attended by all the staff of the National Herbarium of Cameroon, staff at several of the local herbaria that we were helping to set up, and staff from herbaria across west and central Africa selected by Dr Achoundong of the National herbarium (see p. 7 above). Trainees were assessed at the end of the course by the Kew staff (who give this course every year) and presented with a certificate.

Training in making Red Data assessments of plants using the IUCN (2001) standard. This course was part of the end-of project workshop in Yaounde in March/April 03 (see p. 8 and 10 above for more details). Attendees were selected from all the participating Cameroonian projects involved.

## 5. Project Impacts

We are pleased to report that the project achievements have delivered greater progress towards “providing a firm basis for future plant conservation action in W. Cameroon” than could reasonably have been anticipated at the outset.

- Proposing key areas for conservation. The gazettelement in process by government of four new protected areas (listed elsewhere), as a result of data gathered as a result of this project and supplied by us to NGOs, is a step towards conservation of threatened species and habitats, part of the project’s purpose. We did not expect that this impact could be achieved in such a short period.

- Developing further the National Herbarium of Cameroon as the national centre for plant diversity assessment.

1. The appointment of three new doctoral-level, permanent, government of Cameroon-funded researchers to the permanent staff of the National Herbarium, our main partners by IRAD-MINREST the mother organisation, is attributed by staff of the National Herbarium to their collaboration with RBG, Kew under the Darwin project and also with CIRAD of France. This has had a huge impact on HNC, since numbers of researchers have increased from two to five, and since government funding of such institutes is calculated by numbers of researchers. This fact has increased institutional capacity and sustainability enormously.

2. The co-ordination of the Cameroon Government's Ministry of Research & Science biodiversity programmes has now been transferred to the National Herbarium of Cameroon, apparently partly as a result, through the Darwin project, of the high output of biodiversity publications in collaboration with RBG, Kew .

3. The first Red Data assessment training workshop for plants held in West-Central Africa, was hosted with the assistance of the National herbarium. Participants subsequently made their own conservation assessments and published them in peer-reviewed scientific journals. One of these participants, J.M. Onana of the National Herbarium, has subsequently made solid progress writing a guide to the Threatened plant species of Cameroon, using the IUCN (2001) standard.

The two week BAT-funded Herbarium Techniques course organized in Cameroon was the first Herbarium Techniques course held in West-Central Africa and was attended by representatives from throughout the region, raising the profile of the National Herbarium in the W-C African region as has the CIRAD RIHA project, and so helping the success of the National Herbarium's bid to host the next AETFAT congress at Yaounde in Feb. 2007.

One of the additional outputs comprised conservation status assessments of >3000 species making our project the main source of Red Data assessments for plant species in West-Central Africa in recent years, including countries as distant from Cameroon as Guinea-Conakry. 325 Red Data assessments made and submitted to and accepted by IUCN using IUCN (2001) standards and a further 2840 species level conservation status assessments were made, for which full IUCN paperwork has not been completed.

### **Assistance under the CBD and GSPC**

The project has helped Cameroon to meet its obligations under the CBD primarily under **article 7**, i.e.:

1. *in identifying components of biological diversity particularly those*

*requiring urgent conservation,*

This has been achieved through our surveys of possible future protected areas, through assessments of the conservation status of all plant species present in these, especially those which are internationally threatened species, as published e.g. in our Conservation Checklists.

2. *in identifying processes and activities that have adverse effects,*

This has been achieved for each of the c. 400 threatened species identified in our conservation checklists. Each of these books includes a Red data chapter which lists “Threats” (and “management suggestions”) for each species. It has also been achieved in these same books by a general discussion of threats to each of the vegetation types present in each “Checklists Area”.

3. *and in maintaining and organizing relevant data.*

This has been achieved primarily through the development of our western Cameroon specimen and species database of which the National Herbarium has a copy and staff to manage them.

The project also helped under the following CBD articles (see also App. 1):

**Article 8.** A direct government action based on our research findings has been the gazettelement of three new protected areas (detailed elsewhere).

**Article 9.** We have helped the national herbarium and other herbaria in Cameroon improve the regulation and management of their collection of botanical resources through teaching a two week herbarium techniques course in Yaounde.

**Article 11.** We have begun, through ANCO, a civil society conservation partner, to establish an economically and socially sound incentive to conserve and promote sustainable harvesting of the ornamental fruits of forest trees.

**Article 12.** Research and Training. We have made a very significant contribution to building local capacity to undertaking plant conservation activities. Cameroon now has a cadre of well-trained botanists competent to inventory, document, assess the conservation status of plant species. Few if any other W. African countries can boast such a team and as a result the services of the HNC staff are now in demand elsewhere in W.Africa. (see section 4 under Training and Capacity building, above).

**Article 13** through our species-specific conservation poster series;

**Article 15,** through co-authorship and training in writing papers on the genetic resources of Cameroon with e.g. National herbarium staff (i.e. benefit sharing);

**Article 16.** through the transfer of GIS technology and training to the National herbarium of Cameroon through RBG, Kew;

**Article 17** through repatriating label data for historic specimens from western

Cameroon from RBG, Kew to the National herbarium of Cameroon via the database, and also in the case of type specimens through sending full-sized colour photographs of the specimens themselves.

Under the GSPC target we have helped as follows:

**Target 1.** through developing the working list of known plant species for western Cameroon.

**Target 2.** through the conservation assessments of >3000 species, most of which had not been previously assessed.

**Target 5,** through identifying in western Cameroon important areas for plant diversity according to the criteria of endemism, species richness and uniqueness of habitats, and in helping make the case that has secured their formal protection, through the publication of conservation checklists and informal supporting documentation.

**Target 7,** through securing the formal protection of the areas referred to in Target 5 above, we have helped to secure in situ the strictly endemic plant species and other threatened plant species contained therein, which were otherwise largely or completely both unprotected, and unknown to science, or to conservation managers. For example at Kupe-Bakossi, we documented and helped to conserve 82 strictly endemic and 232 threatened species, and at Bali Ngemba 12 strictly endemic and 40 threatened species, and Mt Oku and the Ijim Ridge 14 strictly endemic and 56 threatened species. Thanks to our checklist books, conservation managers can now more easily identify these species and have been supplied with suggestions on how to manage them.

**Target 13,** through recording ethnobotanical knowledge and local names that might otherwise be lost, and by including this information in our published checklists, we are safeguarding it. The fact that we show an interest in this knowledge has often aroused the interest of younger members of local communities in a subject that otherwise has often been spurned, its knowledge base dying out with the elders. We have avoided publishing detailed medicinal uses in case this raises Intellectual Property questions.

**Target 14,** through our species-specific conservation poster series, designed to educate local people and give them pride in species unique or nearly unique, to their tribal areas.

**Target 15,** through training people to conduct botanical inventories for conservation management, to maintain specimen collections on which conservation work is based, to write papers e.g. describing new species in peer-reviewed journals, and to conduct Red data assessments. (see section 4 under Training and Capacity building, above for more detail and also Improving local capacity, below).

### **Improving local capacity.**

Local capacity to further biodiversity work has been improved in the host country as a result of the training or capacity building elements to the project as already detailed under section 4 above, but briefly are mainly as follows:

- 1. capacity to do independent Red Data assessments to IUCN (2001) standards as a result of the '03 workshop on this subject. Evidence: trainees have done these and published them in independent peer-reviewed journals.
- 2. capacity of technicians to collect specimens independently of expatriate organized expeditions. Evidence: trainee Kenneth Tah, formerly a trainee volunteer, now a staff botanist with civil society conservation organization ANCO, for example. It is not possible to list what each of the 116 project trainees is doing now.

### **Collaboration between UK and the local partners.**

- The impact of the project in terms of collaboration between the National herbarium (the main local partner) and RBG, Kew, has been highly significant in terms of developing further joint projects (listed elsewhere), developing joint publications (see Appendix III), increasing the core government staffing and funding of the national herbarium (see elsewhere in this report).
- The impact that the project has made on local collaboration such as improved links between Governmental and civil society groups such as conservation NGOs has been significant. For the first time the second group have been put in touch with the Government's HNC (National Herbarium, IRAD-MINREST) through joint fieldwork, usually in project areas of the NGO's, at their request. In turn, the NGOs, have visited the National Herbarium in Yaounde., necessitated by them delivering the resultant dried specimens from the surveys to the National Herbarium for permitting and then export to Kew for identification. In some cases this contact has led to further collaboration between the two sides.

### **Social Impacts**

- In terms of social impact, the project has had a conservation-positive impact on local communities and officials neighbouring protected areas or potentially protected areas.
- We have been informed by Paul Mzeka, head of ANCO, that simply the fact of our teams being present doing a short survey in a forest in North West Province helps convince local communities that that forest is worth protecting. Their rationale is that if we have come all the way from Europe to reach an obscure patch of forest in uncomfortable conditions, then that forest must be important! Further, Mr Mzeka said that if in the course of our inventory, we pronounce a tree species to be important for conservation (we convey this in reports, e.g. expedition reports, if we find a Red data or range restricted plant species in a survey: the reports go to NGO partners), then the management council of that forest, made up as it is of community elders, will then ensure that these species are identified and protected even if there is no known use for such species. Further still, the fact that we produce a report on a forest in itself helps convince local communities of the importance of their forest. Should we identify a species in a forest for which we have produced a conservation poster (range-restricted and or Red data species) we then send copies for the relevant NGO to the local community concerned. These help identify the

species of interest and explain its importance and rarity. By increasing local pride in their forest they achieve a conservation-positive social impact. The “indicators” of this are mainly feedback from our local NGO partners.

Other conservation-positive social impacts resulting from our project have been made in terms of education. On an expedition we usually employ several guides from local communities and base ourselves in these communities, so that we provide over a two week session, a considerable amount of education and entertainment on the nature of our work. Since locals are involved in every aspect of the fieldwork, from telling us where and how to get to habitats, to guiding us there, collecting, pressing, drying, sorting the specimens, and supplying local names and uses, there is a high degree of transparency which has helped build trust and understanding in what our project is about.

Before inventory work begins at any one local community base, we have to give an explanation of what we are doing, and why, to the gathered community, or to a group of representatives, usually council members, who then invoke the spirits of the ancestors for a decision: the “libation ceremony”. Such has been the social acceptance of our work at the local level that we have often invited to return to communities to carry on inventory work, and on occasion, offered land by local leaders/councils as a gift on condition that we build an office as a permanent base for a project.

Economically we have a positive social impact by hiring cooks, cleaners, wood and water carriers, and guides for our work. We also contribute to a community fund and usually donate a set of books to the village school.

RBG, Kew has agreed to market in London sustainably-harvested ornamental fruit from forests managed by ANCO in North West Province, the funds to be used to improve the livelihoods of the fruit-gatherers and their communities so that they see a return from maintaining natural forest habitat.

At the national level the project has had a positive social impact by increasing the number of staff employed at the National Herbarium (see above), and increasing salaries through helping researchers achieve promotion through their publications related to the project. Our colleagues in the National herbarium have conveyed to us that they are happy about this.

At the national level the project has helped broadcast, through newspaper, radio and tv, the message that the plants of Cameroon, in particular those of western Cameroon, are important for conservation on a global level. These broadcasts have co-incided with events, such as the launching of the project at its outset, later of our conservation checklists, hosting of the herbarium techniques course, and hosting of the Red data assessment (end of project) workshop. This has all had a conservation- positive social impact on the Cameroon population. Over the years of the project we have detected an

increasing understanding in the meaning of the word conservation in Cameroon. While we cannot take all the credit for this, we can for some.

## 6. Project Outputs

Project outputs are quantified in the table in Appendix II using the coding and format of the Darwin Initiative Standard Output Measures.

All the outputs from the agreed PIT were achieved or will be achieved in the next month. Numerous and significant additional outputs were achieved and are listed in app. II, and also above under sect. 3.

Full details are provided in Appendix III of all publications and material that can be publicly accessed.

Information relating to project outputs and outcomes has been disseminated as books (target audience: biologists and conservationists worldwide), papers (scientists worldwide), posters (local communities at targeted sites in Cameroon), expedition reports (conservation NGOs who hosted fieldwork in Cameroon and who need rapid feedback on habitat assessments for areas that we have helped them survey), newspaper articles (the general population of Cameroon and UK). This is continuing after the project, e.g. a press release has just gone to UK National outlets re discovery of a “Top new centre of plant diversity” in Tropical Africa (see App. IX), new checklists are being taken forward and new species papers, and new posters being developed. Costs of these have been borne by RBG, Kew and whatever sponsors we can find to help out.

## 7. Project Expenditure




Variation in expenditure amounting to +/- 10% of the budget occurred under the categories monitoring, printing and conferences. These were due to agreed changes to the budget which occurred for the following reasons:

Since a monitoring visit to Cameroon did not occur in the first few months of the project that coincided with the first financial-reporting year (it was deemed unnecessary since the project proper was not fully running in the sense that e.g. salaried staff had not yet been appointed), it was agreed to transfer this amount to the printing budget re the final outputs (book production). This change did not diminish the total number of monitoring visits since a replacement visit occurred in 01/02 (funded by BAT as part of the Herbarium Techniques course). The monitoring visit in 02/03 and the conference-training budget, both in 02/03 also came in under budget and it was also agreed to transfer these balances to the printing budget.

## **8. Project Operation and Partnerships**

Our main national-level partner in Cameroon, as envisioned in the original plan, has been the National Herbarium of Cameroon (HNC), part of MINREST-IRAD. HNC includes the Ministry's Head of Biodiversity programmes and has national level responsibility in Cameroon for the survey and inventory of the plant diversity of Cameroon and advises the government of Cameroon on all matters pertaining to indigenous plant species. HNC was involved in obtaining national level research, CITES and export permits, in arranging presentations in Yaounde, in arranging the workshops held in Yaounde, in receiving and caring for the top set of survey specimens, deposited with them, and in expediting the export of specimens for identification to RBG, Kew. HNC staff also co-lead all the field surveys with Kew staff, and with local regional partners (see below) obtained local authorisations for fieldwork. HNC staff also pre-named some of the resulting specimens and took responsibility for final naming of some of the larger plant groups at RBG, Kew, co-authoring all of the conservation checklists and many of the paper describing new species that were published.

The number of partner organizations that worked on project activities was 16. This exceeded the four envisioned in the original project planning documents. During the lifetime of the project, we developed relations with new partner organizations. For example, one of the original partner organizations, the BirdLife International managed Kilum Ijim Forest Project, which worked with local communities to manage the forest at Mt Oku and the Ijim Ridge, was wound up in 2004 and its functions were taken over by a civil society organisation, ANCO. We then developed a relationship with ANCO and have begun to work together, for example, to do inventories of forest patches in their remit (NW Province), and to market sustainably harvested forest products so as to provide an incentive to forest managers to maintain forest and not to convert it to fields. Also with ANCO we have obtained a small grant to fund a new ANCO nursery to propagate threatened plant species identified by our surveys for reintroduction into the forest. When through our Kew Cameroon project website we received a query from a European couple moving to Bamenda who wanted to help with forest conservation, we were able to put them in contact with ANCO, and they are now giving valuable support in e.g. fundraising, participating in surveys, to ANCO. One of the originally envisioned local partners,

the Korup Project in S.W. Province, encountered internal political difficulties that affected its ability to function, early in the life of our project, and we decided in 2000 to effectively replace this partner with another project which had been newly created, the BirdLife International managed Bamenda Highlands Forest Project (BHFP). The remit of BHFP was to help local communities in NW Province outside of the KIFP area to protect and manage their forest sustainably. BHFP also terminated in 2004 and its functions have been taken over by ANCO.

We have also developed a strong relationship with CRES (Conservation and Research on Endangered Species), an NGO set up since the inception of our project that has become the main mover for conservation in the Bakossi tribal area of SW Province.

Our main partners at the local level, KIFP, BHFP (the last two now superseded by ANCO) and CRES have been heavily involved in our project planning and implementation. Our plans for activities in Cameroon depended largely on consultation with these partners. They suggested the areas of forest that we might survey within their geographical remits, arranged our visits there, contacted the local communities concerned and arranged introductions and authorisations with them and with provincial authorities. They have also sent their own staff to join our surveys to both assist and to be trained (see training section), arranged transport of specimens to Yaounde, released their staff for training in biological techniques abroad, and at both our herbarium techniques course and our Red Data training course, and supported production of our conservation checklists through their contributions of text and image, helped distribute our species-specific conservation posters to local communities and to publicise our discoveries and their importance for conservation in other ways (e.g. local newspapers, meetings), and used our emerging data on Red Data plant species present within their domains to obtain formal protection for the areas in which they occur with the national government..

While KIFP, BHFP and CRES have been our main partners at the local level during the greater part of the duration of the project, we have also developed relationships with a number of other partners ). In 2004 we began a relationship with ERUDEF, a local NGO seeking to conserve forest in the Fossimondi area (extreme NE corner of SW Province) and mounted a reconnaissance inventory there in April, later helping identify plant species using digital images from their own follow up inventory in October. In 1999 we initiated a survey with the help of WCS (World Conservation Strategy) in Banyang Mbo. Other local NGO and government parastatal partners who have sent personnel to join our surveys for training have been: LBG/MCP, BEPA, NEPA, SATEC, ORDEP, BERUDEF, SPALE, Greenlife Foundation International and ONADEF

During the project lifetime there were no similar projects elsewhere in Cameroon. Cameroon's biodiversity strategy office was inactive (due to the retirement of Augustine Bokwe) during the period of the project although before the project started there was considerable consultation and RBG, Kew's assistance is acknowledged in the draft biodiversity strategy for Cameroon and the biodiversity strategy office produced a letter of support for our project. Since the end of the project the Ministry of the Environment and Forests in Cameroon has been subdivided, and Mary Fosi has been appointed as the new CBD focal point person, effectively replacing Mr Bokwe and taking forward the formalisation and implementation of his draft BS. We have had extensive contact with Mrs Fosi and both in Yaounde and London have explained in some detail the nature of our project, presented her with copies of our most recent checklists and conservation posters, and have discussed with her what should be priorities for any future work that we might conduct in Cameroon.

International partners outside of Cameroon numbered about 15. They participated in project activities by:

1. Specialist naming of specimens from surveys. In order of the size of contribution made, these were (largest first, using standard herbaria codes taken from Index Herbariorum where appropriate): scientists at Herbarium Vadense, Wageningen University, Netherlands (WAG); Agricultural University of Norway, Aas, Norway (NLH); Botanical Museum, Oslo, Norway (O); herbarium, Royal Botanic Gardens, Edinburgh, Scotland (E), then, each contributing at a similar level: herbarium, Botany Dept., Univ. Addis Abeba, Addis Abeba, Ethiopia (ETH), Botany Dept., Smithsonian Institution, Washington DC, USA (US), Univ. British Columbia, Vancouver, Canada (UBC), Jardin Botanique, National de Belgique, Belgium (BR), Harvard Univ. Herbaria, Boston, Mass., USA (H), Inst. Botany, Pruhonice, Czechia, Univ. Gent, Belgium, Univ. California, Berkeley, USA and Florida State Univ., USA.
2. Joining field survey work. Students and/or staff of the institutes above marked in **bold** joined in one of more field surveys. In addition, so did those of Univ. Zurich, Switzerland; Univ. Ghana, Accra, Ghana; Univ. Dundee, Scotland; Univ. Montpellier, France; Univ. Oxford, England. More details are given in the expedition reports that accompanied previous annual reports on this project.

Local partnerships have been active after the end of the Project as partly explained in 8 above. We are endeavouring to continue and expand these partnerships after the project since the NGO institutions concerned, especially ANCO and CRES (see 8 above) are critical to continued protection, monitoring and surveys of important conservation areas within their geographical remit in western Cameroon. These institutions lobby the Ministry of the Environment and Forests (MINEF) of the government of Cameroon either directly (CRES) or through another NGO (CBCS in the case of ANCO) regarding levels of government gazettement for areas. CRES already has a high level of community participation and ANCO is purely a local community-based organization. Community participation in forest conservation has

increased steadily through the life of our project, and since this is usually effective, it is to be hoped that it will continue to increase in future. The private sector already plays a role in ANCO, which originated as a forest honey harvesting and marketing organization (NOWEBA) before taking on conservation as a role. It is generally agreed that MINEF has been rather ineffective at protecting local areas, for example with community participation. Hopefully this will change now that the Ministry has been subdivided.

## **9. Monitoring and Evaluation, Lesson learning**

Our strategy for M&E was to assess our progress using the yearly project output and milestones lists in the original project planning documents (App. V ), while also making progress with the main final outputs, the conservation checklist books. Yearly progress was evaluated in the annual reports, and results on an annual basis are further reported above under section 3 of this report.

This was mainly a scientific project; accordingly, the main outputs have been scientific publications which have their quality monitored and evaluated by a peer review system as part of the publication process. The number of publications far exceeded the number set in the original milestone planning document (see App. V, attached). This was also a conservation project although conservation outputs were not amongst the project milestones. Major measurable outputs in this area relate to: (1) the numbers of taxa for which conservation assessments have been made. Evaluation of the quality of assessments is made by IUCN before they accept and publish them. (2) new areas protected.

There were no insuperable problems. However completing the major final outputs (the three conservation checklists) was delayed by 12 months, which was not ideal. This delay was due to the following factors:

1. Species numbers in the largest of the checklists (Kupe-Bakossi), at 2412 species, far exceeded the initial estimate, c.1500 species. This absorbed extra time in identifications and in preparing species accounts.
2. The high number of species-new-to-science brought to light by this project caused delays because of the time taken to analyse and prepare them for publication. This was held to be important because IUCN rules have been interpreted as to rule against accepting Red Data Status for unpublished taxa. The number of taxa with Red Data Status in an area is important in determining whether or not it is gazetted as protected and/or resourced for protection. Most of the new taxa are narrowly endemic and hence, once published, of Red Data Status.
3. Amongst the additional outputs were two expeditions to checklist areas in the second half of the project. These were mounted to fill gaps in the coverage of the checklist areas discussed during the course of the project. They also served to maintain links with our project partners and to take forward the general

objectives of the project. However, the delays (in one case a year due to permit difficulties since resolved) in the resultant specimens getting to Kew meant that checklist completion was delayed in order to incorporate the extra data.

4. In finalising the conservation checklists we were over-optimistic in the length of time needed to:
  - a. process specimens for identification;
  - b. write the introductory chapters, especially the Red Data and Vegetation chapters which need large parcels of time for analysis and compilation;
  - c. obtain text from external authors;
  - d. get text internally checked for formatting and externally reviewed.
5. Once the original deadline for production of final outputs of Dec. 03 had passed, this work then began to clash with other institutional, non-project commitments.

Internal RBG, Kew monitoring and evaluation was executed by Prof. Simon Owens, Keeper of the Herbarium, and in his absence by Dr Zappi, Head of Regional Teams. Three field evaluation visits were made by Owens and Zappi to Cameroon. In addition they received a copy of all reports.

External evaluation was carried out by ECTF, apparently with at least one visit to Cameroon.

Key lessons that can be drawn are that it is best not to attempt additional outputs if the project is to be completed on time, no matter how desirable these additional outputs might appear, and notwithstanding that the project might appear to be ahead of its milestones.

## **10. Actions taken in response to annual report reviews**

The only substantial recommendation made by an external reviewer, early in the life of a project, was that attention be given to funding the mounting and incorporation of the top set of project expedition specimens which were deposited at the National Herbarium in Yaoundé (HNC). This had not been part of the project plan, the assumption being that HNC would treat these specimens as it did others. However, after discussing the review with HNC it materialized that their means to incorporate specimens fell behind what was required and that they welcomed the idea of extra resources for this purpose. Accordingly, RBG Kew provided additional funds to those of the project that paid for (a) purchase of mounting paper and adhesive, (b) the labour costs of students incorporating the specimens. Good progress was then made incorporating these specimens. We envisage that further funds will be made available for this purpose.

## 11. Darwin Identity

The staff funded by Darwin Initiative were referred to as e.g. the “Western Cameroon Darwin Officer” in reports etc, and in their official job titles. The Darwin Initiative logo was used on posters for workshops and conferences, and also on our series of species-specific conservation posters. It was also used on the covers of the three books published (the conservation checklists). Press releases in UK or Cameroon always referred to funding of the project by the Darwin Init. Reference is therefore often made to the Darwin Initiative in subsequent articles (see hard copies of publications attached); it also always occurred in the acknowledgements sections of the papers we wrote and published. However, papers written by non-team members did not always mention D.I. Within Cameroon, the staff of the National Herbarium are very well aware of the Darwin Initiative through our project, since the grant has been so important for them. That conservation of biodiversity is the bottom line of the D.I. is also well known to them. At the local level our top priority has been to survey, and where necessary, help protect areas and species and we have avoided deluging locals with information on foreign institutional remits. We do not usually even highlight the fact that we represent RBG, Kew in London let alone try to get D.I. understood at the village level. However, these logos do appear on our community education materials and if asked for details on our organisation we explain. We are often referred to as “Earthwatch” in Cameroon since most of the foreigners on our expeditions are emblazoned with T shirts and Sweatshirts bearing this word, since they are volunteers or are sponsored through this organization. Supplying D.I. clothing and hats on a large scale for local use would certainly help raise the profile of the D.I. name at this level if this is considered a priority.

Our project is recognized as distinct, with a clear identity in the context of biodiversity conservation in Cameroon.

## 12. Leverage

Funds additional to those from the Darwin Initiative (**£121, 947**) were obtained principally from Earthwatch , along with volunteers and fellows, in support of the six expeditions held during the life of the project. This was part of the original project plan. Total additional resources raised for the project, including contributions in kind such as labour costs, totalled **£ 458, 953** (see Appendix II, output 23; Appendix VII and annual reports). Examples of additional funding as cash secured that was not envisioned in the original project was as follows.

- 1..BAT funded a two week Herbarium Techniques course in Yaounde. **£12, 000**
2. BAT also helped fund the project fieldwork through several grants from the Overseas Fieldwork Fund at RBG, Kew (e.g. in 2004, **£3, 535**)
- 3.The Bentham-Moxon fund and other RBG, Kew administered funds, sponsored through numerous small grants, the visits of several Cameroonian botanists to RBG, Kew in order to write up new species or to name specimens for the checklists., and of Cameroonian conservationists and technicians to attend courses at RBG, Kew,

e.g. Mme Nana (£4,100), Rita Ngolan (£4, 200).

4. Kew funds also paid for the mounting and incorporation of the top set of specimens arising from the fieldwork, which were deposited at Yaounde (£500).

Through the Directorate of RBG, Kew, our main local partner, the National Herbarium, led by Dr Achoundong, successfully applied for international funds in the form of a significant Andrew Mellon Trust grant for digitization of the type specimens and specimens of rare species held at the National Herbarium under the API (African Plant Information) project. The images are destined for web access.

Dr Achoundong also succeeded in his application for the Denis Stanfield award for Tropical African Botany, again with support from RBG, Kew staff.

An expression of interest for a consortium co-ordinated by RBG, Kew for conservation and sustainable development in Lower Guinea was submitted to the EU under FP6 for a project in which the National Herbarium, with their support, were to have been key players. This work is currently being resuscitated on a smaller scale, again with the involvement of the National Herbarium.

Dr Achoundong of the National Herbarium organized a meeting of RBG, Kew and CIRAD (France) staff to discuss possible future joint West African projects and funding with the National herbarium of Cameroon as key local players. One outcome of this, FORFOOD, was a CIRAD co-ordinated project fund application to the EU in 2004 which again, was not successful. Relationships between CIRAD, RBG, Kew and Nat. Herb. Cameroon continue to be positive and further joint funding efforts are likely in future.

Cameroon's botanists, led by the National Herbarium and Dr Achoundong, successfully competed to host the next African Botanical Congress (AETFAT), in Feb. 2007. This amounts to considerable international funding since the hosts will receive considerable registration fees and financial support to mount this important event.

### **13. Sustainability and Legacy**

Since effectively we have been continuing the project after its official end, and plan to continue to do so, with other sources of funding, as available, the project itself, including its staff and resources, endures and is set to continue to do so.

The project achievements most likely to endure are:

More recognition by the international community, Cameroon government level decision makers and local communities of the very high conservation importance of many of the forests in western Cameroon, arguably the most important in Tropical Africa.

Continued recognition, and so protection, of the four new areas formally gazetted or in the process of being gazetted, as protected by Government in Cameroon as a result of the data supplied by us on the plant species present, these being the Mt Kupe Ecological Reserve, the Lake Edib Ecological Reserve, the Bakossi Mts National Park, the Lake Oku Plant Sanctuary.

Continued activity in plant survey work by those field personnel we have trained in Cameroon, and in the identification, description and Red Data assessment of taxa by scientists that we have trained in Cameroon.

The Project's conclusions and outputs have been applied, in the sense that they have been used to gazette three new protected areas, in that the Red Data Assessments have been accepted by IUCN and are now widely available on their web site ([www.redlist.org](http://www.redlist.org)). Some of the outputs have been widely applied, such as our conservation checklists, which have been publicly held up as a model in Southern Africa under the SABONET programme (see Sect. 3 above). Our species-specific conservation posters have been studied by conservationists in East Africa as a model for use in their coastal forests. Our project has been the main source of Red Data assessments for the plant species of Central Africa, with the result that the latest assessments of the species of e.g. Gabon derive directly from our work in western Cameroon.

The Legacy could have been further improved by continued funding of several aspects of the project, such as study visits of Cameroonian scientists to RBG, Kew and other European herbaria in order to write up more of the new species for publication in peer-reviewed journals. It is certain that we will see further use of the project's outcomes in future, e.g. in drawing attention to the high diversity of plants species in this part of Tropical Africa and the continued need for targeting conservation resources there.

Additional funds have been sought, have been obtained and will continue to be sought, to continue joint RBG, Kew-National Herbarium of Cameroon fieldwork in Cameroon (mainly from RBG, Kew's internal fieldwork budget), and to bring Cameroonian researchers to Kew (from e.g. Commonwealth fellowships, and funds administered through RBG, Kew for this purpose).

#### **14. Post-Project Follow up Activities**

To further embed and consolidate the results of our Darwin project, we would like to do the following, if follow-up funds were available:

1. Work with the conservation-education NGO Living Earth Cameroon to develop ways of channelling the information acquired by the project on the conservation of the plant diversity of western Cameroon into local schools in NW and SW Provinces. These would be suitable for Darwin funding since they fulfil articles 13 and 17 of the CBD. Educating the next generation is imperative, since it is they will be the ultimate managers of the biodiversity in their provinces.
2. Bring more Cameroonian plant taxonomists-conservationists such as those of the National Herbarium, but also those of e.g. Limbe Botanic Garden, to RBG, Kew to assist in writing up for publication the numerous new species discovered as a result of this project. As part of these study visits, conservation assessments of taxa would be made with GIS technology. This would fulfil CBD articles 12, 15, 16 and 17.



Evidence of the strong commitment and capacity by host country partners to enable them to play a major role in the follow-up activities described above is as follows:

1. Living Earth Cameroon have been active in Environmental education in Cameroon for over 15 years. They have executed numerous projects throughout the country, notably, 10 years ago, one preparing teaching materials in environmental education for schoolteachers. We have had several meetings with their representatives to discuss co-operation in Cameroon.
2. The National Herbarium (and its mother organization IRAD) have shown commitment and capacity e.g. by hugely increasing investment in their core-funded research staff and assuming responsibility for national management of biodiversity programmes (see Sect. 5, para 1 and 2).

### **15. Value for money**

Considering the costs and benefits of the project, I rate the project as excellent value in terms of the Darwin Initiative funds invested in it. The award of the Darwin funds enabled the Wcam project to become a reality, achieving all that it set out to do, and much more (see Sect. 3 above). In the course of the project, the existence of the D.I funds enabled numerous other resources to be “leveraged”, to the extent that D.I funds were matched twice over in terms of cash and cash-equivalents such as contributed labour costs (see sect. 12 above).

## 16. Appendix I: Project Contribution to Articles under the Convention on Biological Diversity (CBD)

Please complete the table below to show the extent of project contribution to the different measures for biodiversity conservation defined in the CBD Articles. This will enable us to tie Darwin projects more directly into CBD areas and to see if the underlying objective of the Darwin Initiative has been met. We have focused on CBD Articles that are most relevant to biodiversity conservation initiatives by small projects in developing countries. However, certain Articles have been omitted where they apply across the board. Where there is overlap between measures described by two different Articles, allocate the % to the most appropriate one.

<b>Project Contribution to Articles under the Convention on Biological Diversity</b>		
<b>Article No./Title</b>	<b>Project %</b>	<b>Article Description</b>
<b>6. General Measures for Conservation &amp; Sustainable Use</b>	0	Develop national strategies that integrate conservation and sustainable use.
<b>7. Identification and Monitoring</b>	70	Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities that have adverse effects; maintain and organise relevant data.
<b>8. In-situ Conservation</b>	5	Establish systems of protected areas with guidelines for selection and management; regulate biological resources, promote protection of habitats; manage areas adjacent to protected areas; restore degraded ecosystems and recovery of threatened species; control risks associated with organisms modified by biotechnology; control spread of alien species; ensure compatibility between sustainable use of resources and their conservation; protect traditional lifestyles and knowledge on biological resources.
<b>9. Ex-situ Conservation</b>	1	Adopt ex-situ measures to conserve and research components of biological diversity, preferably in country of origin; facilitate recovery of threatened species; regulate and manage collection of biological resources.
<b>10. Sustainable Use of Components of Biological Diversity</b>	0	Integrate conservation and sustainable use in national decisions; protect sustainable customary uses; support local populations to implement remedial actions; encourage co-operation between governments and the private sector.
<b>11. Incentive Measures</b>	1	Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.

<b>12. Research and Training</b>	8	Establish programmes for scientific and technical education in identification, conservation and sustainable use of biodiversity components; promote research contributing to the conservation and sustainable use of biological diversity, particularly in developing countries (in accordance with SBSTTA recommendations).
<b>13. Public Education and Awareness</b>	3	Promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media; cooperate with other states and organisations in developing awareness programmes.
<b>14. Impact Assessment and Minimizing Adverse Impacts</b>	0	Introduce EIAs of appropriate projects and allow public participation; take into account environmental consequences of policies; exchange information on impacts beyond State boundaries and work to reduce hazards; promote emergency responses to hazards; examine mechanisms for re-dress of international damage.
<b>15. Access to Genetic Resources</b>	5	Whilst governments control access to their genetic resources they should also facilitate access of environmentally sound uses on mutually agreed terms; scientific research based on a country's genetic resources should ensure sharing in a fair and equitable way of results and benefits.
<b>16. Access to and Transfer of Technology</b>	1	Countries shall ensure access to technologies relevant to conservation and sustainable use of biodiversity under fair and most favourable terms to the source countries (subject to patents and intellectual property rights) and ensure the private sector facilitates such assess and joint development of technologies.
<b>17. Exchange of Information</b>	7	Countries shall facilitate information exchange and repatriation including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge
<b>19. Bio-safety Protocol</b>	0	Countries shall take legislative, administrative or policy measures to provide for the effective participation in biotechnological research activities and to ensure all practicable measures to promote and advance priority access on a fair and equitable basis, especially where they provide the genetic resources for such research.
<b>Total %</b>	<b>100%</b>	<b>Check % = total 100</b>

## 17. Appendix II Outputs

Please quantify and briefly describe all project outputs using the coding and format of the Darwin Initiative Standard Output Measures.

Code	Total to date (reduce box)	Detail (←expand box)
<b>Training Outputs</b>		
1a	Number of people to submit PhD thesis	
1b	Number of PhD qualifications obtained	
2	Number of Masters qualifications obtained	
3	Number of other qualifications obtained	
4a	Number of undergraduate students receiving training	
4b	Number of training weeks provided to undergraduate students	
4c	Number of postgraduate students receiving training (not 1-3 above)	
4d	Number of training weeks for postgraduate students	
5	Number of people receiving other forms of <b>long-term</b> (>1yr) training not leading to formal qualification( i.e not categories 1-4 above)	
6a	Number of people receiving other forms of <b>short-term</b> education/training (i.e not categories 1-5 above)	115 (only 2 for GIS training and 10 for final workshop in original schedule)
6b	Number of training weeks not leading to formal qualification	18 (all additional output)
7	Number of types of training materials produced for use by host country(s)	17 (conservation posters; numbers not specified in project schedule)
<b>Research Outputs</b>		
8	Number of weeks spent by UK project staff on project work in host country(s)	108 (of which 84 weeks are additional output)
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	314 (all additional output)
10	Number of formal documents produced to assist work related to species identification, classification and recording.	4
11a	Number of papers published or accepted for publication in peer reviewed journals	35 (of which 23 were additional outputs)
11b	Number of papers published or accepted for publication elsewhere	5 (all additional output)
12a	Number of computer-based databases established (containing species/generic information) and handed	
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	1 (to Yaounde, copy to be sent to Limbe, and subsets to ANCO re Likum-Ijim and Bali Ngemba; CRES re Kupe-Bakossi)
13a	Number of species reference collections established and handed over to host country(s)	3 (Kupe, Kilum-Ijim and Bamenda Highlands)

<b>Code</b>	<b>Total to date (reduce box)</b>	<b>Detail (←expand box)</b>
13b	Number of species reference collections enhanced and handed over to host country(s)	2 (Yaounde and Limbe)

<b>Dissemination Outputs</b>		
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	2 (project schedule: 1 workshop)
14b	Number of conferences/seminars/ workshops <b>attended</b> at which findings from Darwin project work will be presented/ disseminated.	4 (project schedule:1 presentation, at AETFAT)
15a	Number of national press releases or publicity articles in host country(s)	6 (project schedule: 3 press releases)
15b	Number of local press releases or publicity articles in host country(s)	2 (additional output)
15c	Number of national press releases or publicity articles in UK	10 (project schedule: 3 publicity articles)
15d	Number of local press releases or publicity articles in UK	7 (additional output)
16a	Number of issues of newsletters produced in the host country(s)	
16b	Estimated circulation of each newsletter in the host country(s)	
16c	Estimated circulation of each newsletter in the UK	
17a	Number of dissemination networks established	
17b	Number of dissemination networks enhanced or extended	
18a	Number of national TV programmes/features in host country(s)	2 (additional output)
18b	Number of national TV programme/features in the UK	
18c	Number of local TV programme/features in host country	
18d	Number of local TV programme features in the UK	
19a	Number of national radio interviews/features in host country(s)	5 (project schedule: 3 radio interviews)
19b	Number of national radio interviews/features in the UK	
19c	Number of local radio interviews/features in host country (s)	3 (additional output)
19d	Number of local radio interviews/features in the UK	3 (additional output, Ben Pollard)
<b>Physical Outputs</b>		
20	Estimated value (£s) of physical assets handed over to host country(s)	£8017 plus (value difficult to estimate) 5912 specimens and about 500 cibachomes of type specimens (£5800 in project schedule)
21	Number of permanent educational/training/research facilities or organisation established	
22	Number of permanent field plots established	
23	Value of additional resources raised for project	£458, 953 (see App. VII for calculation). £128, 986 was previewed in project schedule.

## 18. Appendix III: Publications

All publications included with this report are marked \* and are numbered \*1- \*42. The 22 publications, including one book, that were sent in with annual reports, are not included and so are not asterisked or numbered.

<b>Type *</b> (e.g. journals, manual, CDs)	<b>Detail</b> (title, author, year)	<b>Publishers</b> (name, city)	<b>Available from</b> (e.g. contact address, website)	<b>Cost £</b>
<b>Book</b>	<i>The Plants of Mount Oku and the Ijim Ridge, Cameroon, a Conservation Checklist; Cheek, Onana, Pollard 2000</i>	<i>Royal Botanic Gardens, Kew, London.</i>	<a href="http://www.kewbooks.com">www.kewbooks.com</a> , publishing@kew.org	<b>30</b> <b>(available in Cameroon for c. 10 pnds)</b>
	<i>The Plants of the Bali Ngemba Forest Reserve, Cameroon, a Conservation Checklist*; Harvey, Pollard, Darbyshire, Onana, and Cheek, 2004</i>			<b>30</b>
	<i>The Plants of Kupe, Mwanenguba and Bakossi Mts, Cameroon, a Conservation Checklist; Cheek, Pollard, Darbyshire, Onana, and Wild 2004*2</i>			<b>45</b>

<p><b>Scientific Journal</b></p>	<p>Cheek, M. Radcliffe-Smith, A. &amp; Faruk, A. A new species of <i>Drypetes</i> (Euphorbiaceae) from Western Cameroon. <i>Kew Bull.</i> 55: 895-898(2000).</p> <p>Cheek, M. A synoptic revision of <i>Ancistrocladus</i> (Ancistrocladaceae) in Africa, with a new species from western Cameroon. <i>Kew Bull.</i> 55:871-882(2000)</p> <p>Cheek, M. &amp; Csiba, L. A new species and new combination in <i>Chassalia</i> (Rubiaceae) of western Cameroon. <i>Kew Bull.</i> 55: 883-888(2000).</p> <p>Cheek, M. &amp; Sonké, B. A new species of <i>Oxyanthus</i> (Rubiaceae-Gardeniinae) from western Cameroon. <i>Kew Bull.</i> 55: 889-893 (2000).</p>	<p><i>Royal Botanic Gardens, Kew, London.</i></p>	<p><a href="http://www.kewbooks.com">www.kewbooks.com</a>, publishing@kew.org</p>	<p><b>40 for one issue of c. 250 pp</b></p>
	<p>Pollard, B.J. &amp; Paton, A.J. A new rheophytic species of <i>Plectranthus</i> (L'Hér.) from the Gulf of Guinea.</p> <p><i>Kew Bull.</i> 56: 975 – 982(2001)*.</p>			



	<p>Cheek, M. &amp; Csiba, L. (2002) A revision of the <i>Psychotria chalconeura</i> complex (<i>Rubiaceae</i>) in Guineo-Congolian Africa. Kew Bull. 57: 375-387.</p> <p>Cheek, M. &amp; Bridson, D. (2002) Two new species of <i>Psychotria</i> (<i>Rubiaceae</i>) from western Cameroon. Kew Bull. 57: 389-395.</p> <p>Dawson, S.E. (2002). A new species of <i>Stelechantha</i> Bremek. (<i>Rubiaceae</i>, <i>Urophyllaeae</i>) from Cameroon. Kew Bull. 57: 397-402.</p> <p>Cheek, M. (2002) Three new species of <i>Cola</i> (<i>Sterculiaceae</i>) from Mt Cameroon, Cameroon. Kew Bull. 57: 402-415.</p> <p>Cribb, P. &amp; Pollard, B.P. (2002). New orchid discoveries in western Cameroon. Kew Bull. 653-659.</p> <p>Cheek, M. , Gosline, G. &amp; Csiba, L. (2002) A new species of <i>Rhaptopetalum</i> (<i>Scytometalaceae</i>) from western Cameroon. Kew Bull. 57(3): 661-667.</p>			
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## 19. Appendix IV: Darwin Contacts

To assist us with future evaluation work and feedback on your report, please provide contact details below.

<b>Project Title</b>	Conservation of the Plant Diversity of Western Cameroon
<b>Ref. No.</b>	<b>162/38/38</b>
<b>UK Leader Details</b>	
Name	Martin Cheek
Role within Darwin Project	Project Manager
Address	Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AE, UK.
Phone	
Fax	
Email	
<b>Other UK Contact (if relevant)</b>	
Name	Yvette (Tivvy) Harvey
Role within Darwin Project	Deputy Project Manager
Address	Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AE, UK
Phone	
Fax	
Email	
<b>Partner 1</b>	
Name	Gaston Achoundong
Organisation	Herbier National Camerounais
Role within Darwin Project	Leader of main Cameroonian partner organisation
Address	BP 1601 Yaounde, Cameroon
Fax	
Email	
<b>Partner 2 (if relevant)</b>	
Name	
Organisation	
Role within Darwin Project	
Address	
Fax	
Email	

## Appendix VII

The calculation of “additional resources raised for the project” regarding D.I. standard output measure 23 (see Appendix II) for the years 99-00, 00-01, 03-04 these not having been included in previous annual reports.

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### 1999-2000

£4,000	A. <i>Field Grant from Earthwatch for expedition (2 teams in NWP, Nov.-Dec. 1999).</i>
£21,000	B. <i>Value of Earthwatch labour calculated as “contribution in kind”</i>
£XXXX	C. <i>Contribution in kind: 70% of salary cost for Martin Cheek (SSO over 4 months..</i>

### 2000-2001

£4,000	A. <i>Field Grant from Earthwatch for expedition (2 teams in NWP, April-May 02).</i>
£21,000	A. <i>value of Earthwatch labour calculated as “contribution in kind”</i>
£XXXX	B. <i>Contribution in kind: 70% of salary cost for Martin Cheek (SSO).</i>

### 2003-2004

**(end)**

£4,000	A. <i>Field Grant to from Earthwatch for expedition (1 team Enyangdong March 03; 1 team in NWP, April-May 02).</i>
£21,000	B. <i>value of Earthwatch labour calculated as “contribution in kind”</i>
£XXXX	C. <i>Contribution in kind: 50% of salary cost for Martin Cheek over 21 months(Band E) using updated ready reckoner.</i>
£XXXX	D. <i>Ibid. 40% salary cost Yvette Harvey (Band D)</i>
£XXXX	E. <i>Ibid. 30% of salary cost of I. Darbyshire (Band B)</i>
£4,200	F. <i>Rita Ngolan, attending course at &amp; funded through RBG, Kew.</i>
£4,100	G. <i>Felicite Nana attending course at and funded through RBG, Kew.</i>

£66, 017	<i>Total from 01-02 Annual report</i>
£86, 260	<i>Total from 02-03 Annual report</i>

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