



<http://www.darwin.gov.uk>

DARWIN INITIATIVE FOR THE SURVIVAL OF SPECIES

**Project Reference: 162/8/204
Formerly 162/8/113**

**Collection and Cataloguing of Algae
for the Natural History Museum of
Oman**

**FINAL REPORT
NOVEMBER 2003**

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ABBREVIATIONS

N/A: Not applicable

NHM-UK: Natural History Museum, UK

HIPC: Heavily indebted partner country

HTS: HTS Development Limited

HUM: Herbarium of the University of Michigan

MRMEWR: Ministry of Regional Municipalities, Environment and Water Resources

ONHM: Oman Natural History Museum

PRS: Poverty Reduction Strategy

SCUBA: Self-contained underwater breathing apparatus



Darwin Initiative for the Survival of Species

Final Report

1. Darwin Project Information

Project title	Collection and Cataloguing of Algae for the Natural History Museum of Oman
Country	Sultanate of Oman
Contractor	HTS Development Ltd
Project Reference No.	162/8/204 formerly 162/8/113
Grant Value	£167,973
Starting/Finishing dates	June 1999 – November 2003 (Extended from April 2002 with approval of Darwin Initiative)

2. Project Background/Rationale

- **Location and circumstances of the project**

The Project focused on the stretch of coastline between Salalah and Sath in the southern region of Oman. Collections of benthic macroalgae (large algae fixed to the sea bed) were made from the marine environment in this region. The algae were preserved and catalogued into three matching reference collections. The first reference collection is held at the Oman Natural History Museum (ONHM) in Muscat, the capital of Oman. The second reference collection is held at the Natural History Museum, UK (NHM - UK). The third reference collection is held at the Herbarium of the University of Michigan in the United States (HUM).

There were three major partners in the Project.

HTS provided overall Project Co-ordination. HTS assisted in the collection of algae and headed the development of the public communications materials.

ONHM acts as the repository for the algal collection in Oman. The Museum maintains this collection and assisted in the development and hosting of the public communications materials.

NHM - UK acts as the repository for the algal collection in the UK. The Museum maintains this collection and provides its accession codes to the other partners.

In addition HUM acts as the repository for the algal collection in the USA. The Museum maintains this collection and is the focus for taxonomic identification of algae and the writing of scientific papers.

- **What was the problem that the project aimed to address?**

The coastal waters off Oman are home to diverse macroalgal communities. These communities had received little attention from taxonomists and were therefore relatively poorly understood. The proposal indicated that the macroalgae are an important natural resource that has considerable potential for commercial exploitation. Broadly the aim of the project was to collect, label, identify and present a fully referenced algal collection at the Oman Natural History Museum with a parallel collection at the Natural History Museum, UK; to transfer knowledge from British algal experts to Oman museum curators with training in preservation techniques, taxonomy and methods of displaying algae collections; to promote environmental and biodiversity awareness through interpretative displays and posters in the Oman Natural History Museum through the production of algal biodiversity handbook.

It was anticipated that the information collected would feed into plans for the in-situ conservation of Oman's unique macroalgal communities.

- **Who identified the need for this project and what evidence is there for a demand for this work and a commitment from the local partner?**

Available information indicates that the Project was initiated by Dr Lynne Barratt who had undertaken earlier studies in the area and felt that there was a need for further work. Correspondence from the Ministry of Foreign Affairs on 16th January 2000 indicates a commitment from the local partner. The ONHM employs a part time Curator to look after the algal collection. The ONHM issued a letter on 18th March 2003 (Appendix V.1) indicating that:-

"We understand that the Natural History Museum, UK and the Herbarium of the University of Michigan will continue to provide information to catalogue the collection after the end of the project. We confirm that we wish to continue to work with these organisations on the collection".

An Official launch of the products from the Darwin Project took place on Tuesday 14th October 2003. A Press release in English and Arabic from the launch is presented as appendix V.2.

3. Project Summary

- **What were the purpose and objectives (or purpose and outputs) of the project? Please include the Logical Framework for this project (as an appendix) if this formed part of the original proposal or has been developed since, and report against this.**

The Project was not developed and implemented against a logframe since this was not a requirement when the Project was approved.

The project purpose was:-

“To describe the species diversity in the waters off Southern Oman before the algal resources are overexploited”.

The project objectives were:-

“To collect, label, identify and present a fully referenced algal collection at the Oman Natural History Museum with a parallel collection at the Natural History Museum, UK; to transfer knowledge from British algal experts to Oman museum curators with training in preservation techniques, taxonomy and methods of displaying algae collections; to promote environmental and biodiversity awareness through interpretative displays and posters in the Oman Natural History Museum through the production of algal biodiversity handbook.”

These are further detailed as follows:-

3.1 Establish a fully referenced algae collection at the Oman Natural History Museum with a parallel collection at the British Natural History Museum.

Due March 01 - 95% achieved November 2003:

The Darwin Project has created three matching collections of algae. The major collection resides in the Oman Natural History Museum. A second matching collection is held at the Natural History Museum in London and a third at the Herbarium of the University of Michigan in the USA. The three institutions are collaborating to maximise the knowledge to be gained from these Collections. The Project has already produced new new records and species from Oman. Continuing collaboration between these Institutions will continue this process.

The duplicate collection was handed over from HTS to the NHM-UK in London on 31st July 2002 and acknowledged on the 16th October 2002 (Appendix V.3). The ONHM, NHM-UK and HUM continue to communicate concerning the collections (Appendix V.4,5).

A count of specimens on 18th March 2003 indicated 650 specimens in the ONHM collection. 643 specimens were on the ONHM accessions list versus 788 on the database handed over to the ONHM in March 2003. The difference in numbers of specimens is 138. The additional triplicate specimens may be with the HUM being worked on and if so one of each will be handed over to ONHM and NHM-UK after identification.

The ONHM confirms that *“All 643 specimens received and identified to date have been mounted, labelled, added to the database and incorporated into the ONHM collection. The remainder of unidentified specimens received by ONHM have been prepared, awaiting identification and labelling. There may still be some specimens being worked on by HUM, which will be processed upon receipt”.*

Training in updating the database and printing out of labels was given. ONHM is confirming the specimens in their collection and adding the NHM-UK accession codes to the database for ease of communication/reference. This process is continuing. With respect to the NHM-UK collection:

1. Total collection (in excess) of 500 dried herbarium specimens and microscope slides have been sorted and labels attached (some problems of label mismatch still prevent completion of sorting).
2. 290 specimens allotted an individual (bar-code) number with label data entered onto Museum accessions data-base.
3. 250 specimens laid out (i.e. prepared and mounted onto Museum herbarium sheets, ready for incorporation into the collections).
4. 180 sheets incorporated into the Museum's collections.

The Project has added substantially to our knowledge of benthic marine algae from the southern region of Oman. The Project has provided further evidence that this region of Oman is a major mixing pot for benthic marine algae from all over the world. Algae have been found with their nearest relatives as far apart as South Africa, Japan and the Mediterranean sea.

The Darwin project has built on substantial existing work and has also resulted in the discovery of at least seven new species. These species are:-

Stirnia prolifera, *Plocamium fimbriatum*, *Dipterocladia arabiensis*, *Turbinaria foliosa*, *Jolyana furcata*, *Centroceras secundum*, *Leveillea major*

A new genus of algae has also been reported (*Stirnia*) as a direct result of the Darwin Project.

There is a commitment from the partners to continue cataloguing of the collections after the Project finishes.

3.2 Develop an informative Museum display illustrating the importance of the macroalgal communities and raising awareness of Oman's unique coastal ecology.

Due August 2000 - 100% achieved November 2003.

A **Museum display** illustrating the links from "Weeds to Whales" and how humans depend on these links has been prepared. This Museum Display was "launched" on October 14th 2003 and is fixed on a wall in the Whales Hall of the ONHM. It comprises 3 panels and is 2m high and 2.6m long. An image of the Museum display is presented in the handbook and on the web site (see below).

3.3 Develop a website for the Oman Natural History Museum and disseminate project findings through it.

Due July 1999 – 100% achieved 11th May 2003

An earlier draft of the website was approved in September 2001. Following this approval further work was undertaken to make edits recommended by ONHM and to add more ONHM information and expand the macroalgal section. A draft password-protected web site <http://www.htsdevelopment.com/oman> has been up and running since July 31st 2002. ONHM approved public access for the site on May 11th 2003 (Appendix V.6). HTS has agreed to host the web site until the end of 2003. The Museum was provided with options and costs for hosting in a fax



dated 06th October 2003 but has not yet responded. It is not, therefore, known whether the site will be hosted after the end of 2003.

The site includes downloadable pdf files for the algal handbook, for 9 academic papers produced as a result of the Project and for 2 public awareness articles.

3.4 Transfer knowledge to Omani museum staff in collection and curation techniques and the management of biodiversity information.

Due March 02 - 100% achieved November 2003.

An Omani counterpart was trained in collection techniques in 2001 but unfortunately could not learn to dive because of ear problems.

Limited training was provided in curation techniques in the first year of the Project. The staff no longer work on the collection. A proposal for a two week training package in the UK could not be taken up by the Museum for administrative reasons¹. A guide for preservation of algal specimens was provided in 1999 and a copy is present in the ONHM.

An expatriate technician (most recently Anna Clyde) has been employed in the herbarium of the ONHM and spends about 20% of her time on the Oman algal collection including the Darwin collection. She works with an Omani counterpart. HTS provided training to Anna in the use of the database in March 2003. She was using the database which was current during the site visit in October 2003.

The main knowledge legacy of the Project resides in the ongoing co-operation between the ONHM, NHM UK and HUM as reflected in correspondence relating to the Collections (Appendix V.4,5).

The public awareness materials and publications described in this section also contribute to knowledge transfer. All are on the project web site.

3.5 Contribute to science through the publication of journal papers on Oman's macroalgae.

Four papers due March 01 - 100% achieved March 2001.

Appendix III lists publications in or submitted to refereed Journals in the reporting period. These include 10 published papers in peer reviewed journals together with 2 articles in a University journal and 4 abstracts. 2 additional papers are in press and 2 have been submitted.

¹ The ONHM comments "at the start of the Project it was agreed that a 2 week training package in the UK would be provided for ONHM technical staff. (Ref: Letter from A J N Tansley, Deputy Head of Mission, British Embassy, Oman; dated 02/02/00 and MFA Note" 801\24075\14070\707, dated 16/01/00, item 2). This did not take place, and in 2002 training was dropped from the project.

3.6 Promote increased awareness of the importance of Oman's marine plants through a popular publication and poster.

Due March 01 (August 2000 for Poster and Display). 100% achieved October 2003 for display. Poster produced but not of adequate quality.

A letter approving the Display and Handbook has been obtained from the ONHM (Appendix V.6).

An **Algal handbook** to illustrate to the amateur naturalist the great variety of marine algae to be found in Dhofar: The handbook can be downloaded as a pdf file from the Project web site. One hundred and fifty copies of the handbook were handed over to the ONHM on 14th October 2003. 5 Copies have been sent to the Darwin Monitoring Team and have been acknowledged.

A **Museum display** illustrating the links from "Weeds to Whales" and how humans depend on these links: The display is 2m high and 2.8m long and comprises 3 panels (1m, 1m and 0.8m). This Museum Display was "launched" on October 14th 2003 and is fixed on a wall in the Whales Hall of the ONHM. An image of the display is included on the web site and in the handbook.

200 copies of a **Poster** of the Museum display were printed. Unfortunately it was only realised that these were not of good quality after printing at enlarged size. This was because the printing was based on a single electronic image of the display and was not produced from an electronic composite. The time and resources needed to prepare and print a new poster from a composite image were not available.

The Project Web site, Museum display and handbook were handed over at a Public ceremony attended by the deputy head of the British Embassy and the Advisor to the Minister of Heritage and Culture on 14th October. The press including the TV were present. It is understood that the launch was broadcast on the evening news in English and Arabic. Press releases from the launch are provided (Appendix V.2).

3.7 Develop a plan for the in-situ conservation of Oman's macroalgal communities.

Due February 01 - 0% achieved

Item 7 of note number 801/24075/14070/707 of 16th January 2000 specified that the Ministry would like to mention that the concerned Omani authorities at the Ministry of National Heritage and Culture would like to propose the following:-

"Seventh: A strategy should be prepared to conserve the algae breeding areas in the Southern coast of Oman".

No proposals had been made for the in-situ conservation of Oman's macroalgal communities at the time when the present Co-ordinator took over the Project in December 2001. In subsequent discussions with the Ministry responsible for conservation and in the context of the above request it was indicated that the Ministry did not require a management plan since it had other priorities. A document reporting on the status of coastal zone management activities within



the Sultanate of Oman lists these other priorities. The document was prepared by Mr Ali Amer Al-Kiyumi, DG of Nature Conservation, as requested by the present Project Co-ordinator and was delivered in early 2002.

A meeting was held on 17th March 2003 at MRMEWR with Salem Al Sadhi, Director of Biodiversity; Nasser Issa Al Maskari, Acting Director of Planning for Nature Conservation Department; Mohamed Al Sheryani, Director of Wildlife Protection; and attended by Saddiqa Ramdhan, Supervisor, ONHM. The issue of the management plan was raised but not resolved pending the return of Mr Ali Amer Al-Kiyumi. There was no subsequent communication from MRMEWR on this subject. The issue of the management plan was raised in correspondence with ONHM in respect of approaching MRMEWR to provide a briefing for the project launch in October. Unfortunately this briefing was not forthcoming.

The development of a management plan is a collaborative activity and therefore could not be achieved without input from all interested parties.

- **Were the original objectives or operational plan modified during the project period? If significant changes were made, when was approval given by the Darwin Secretariat?**

There have been substantial delays in Project delivery partly because of a change in Project staff at a critical point when outputs were being prepared.

A significant change made to the project was the dropping of a plan for the in-situ conservation of Oman's macroalgal communities reflecting different priorities in Oman (see 3.7 above).

Permanent monitoring sites were not introduced because of the practical difficulties of fixing, revisiting and analysing statistically significant changes to the sites.

Approval by Darwin to extend the Project was provided by the Darwin Secretariat:-

- to August 2002 on April 22nd 2002;
- to March 2003 in October 2002;
- to financial year 2004 on 14th March 2003.

Darwin confirmed that the Final Report must be submitted by end November 2003 on 21st May 2003. Approval was based on the reasons behind the project delay and the fact that all the project deliverables could be achieved within the existing budget.



- Which of the Articles under the Convention on Biological Diversity (CBD) best describes the project?

Project Contribution to Articles under the Convention on Biological Diversity		
Article No./Title	Project %	Application
7. Identification and Monitoring	50 (35*)	Collection and cataloguing of algae. Collection and cataloguing of triplicate algal collections.
13. Public Education and Awareness	40 (35*)	Web site, Museum display and handbook for disseminating the results of the project
17. Exchange of Information	10 (10*)	Triplicate collections maintained (ONHM in Oman; NHM in UK and HUM in the USA). Commitment by partners to continue working together after the end of the Project. Large number of publications (see app. III).
Total %	100%	Check % = total 100

* Figures in brackets relate to percent specified in on-line questionnaire submitted to ECTF in April 2001 also article 6 (5%); article 8 (15%). Articles 6 and 8 are detailed in Appendix I.

- Briefly discuss how successful the project was in terms of meeting objectives. What objectives were not achieved, or only partly achieved, and have there been significant additional accomplishments?

Section 3 describes achievement of the objectives of the Project. All but one of the objectives (and one sub-objective) were achieved. The development of a plan for the in-situ conservation of Oman's macroalgal communities and the fixing of permanent monitoring sites were not achieved. The plan was not developed because the Omani partner indicated that it was not a priority. It should be noted that a coastal zone management plan already exists for the southern region.

Significantly more peer reviewed papers have been produced than was expected. The three collections are larger than was expected and there is a higher degree of co-operation between the three organisations hosting each collection than was expected.

Public communications materials were produced and handed over to the host country institution.

4. Scientific, Training, and Technical Assessment

- **Research** - this should include details of staff, methodology, findings and the extent to which research findings have been subject to peer review.

Appendix III lists the research outputs of the Project. These include 10 published papers in peer reviewed journals together with 2 articles in a University journal and 4 abstracts. 2 additional papers are in press and 2 have been submitted.

All the papers have been written by Prof Mike Wynne who was an associate



on the Project and assisted in the collection of algae and subsequent identification of specimens from the collection.

Whilst Omani counterparts have been involved in the collection and cataloguing of algae none have been undertaking research on the collections.

The Project has added substantially to our knowledge of benthic marine algae from the southern region of Oman. The Project has provided further evidence that this region of Oman is a major mixing pot for benthic marine algae from all over the world. Algae have been found with their nearest relatives as far apart as South Africa, Japan and the Mediterranean sea.

The Darwin project has built on substantial existing work and has also resulted in the discovery of at least seven new species. These species are:-

Stirnia prolifera, *Plocamium fimbriatum*, *Dipterocladia arabiensis*, *Turbinaria foliosa*, *Jolyna furcata*, *Centroceras secundum*, *Leveillea major*.

A new genus of algae has also been reported (*Stirnia*) as a direct result of the Darwin Project.

Some 40 weeks of elapsed time generally involving more than one member of staff were spent on project work in the host country. This included field collecting trips in: (a) September 1999; (b) January/February 2000; (c) September 2000 and (d) September 2001. In addition short visits were made in March 2003 to transfer and provide training in the algal database and discuss dissemination materials and in October 2003 to attend the launch of dissemination materials.

- **Training and capacity building activities** – this should include information on selection criteria, content, assessment and accreditation.

Appendix II lists the training outputs from the Project. **No formal** training was proposed for this project or budget allocated for training. Efforts were made to provide informal training including a response to a request for training after the Project started (see 3.4 above). Limited training was provided to Omani counterparts in algal collecting and cataloguing techniques. An Omani counterpart was identified to undertake SCUBA diver training but was unable to do so because of ear problems. The ONHM employs an herbarium assistant who maintains the collection and is in communication with NHM - UK and HUM for technical support. The assistant was given training in use of the Microsoft Access Project database.

5. Project Impacts

- **What evidence is there that project achievements have led to the accomplishment of the project purpose? Has achievement of objectives/outputs resulted in other, unexpected impacts?**

The Project does not have a logical framework. However, the purpose is specified as:-

“To describe the species diversity in the waters off Southern Oman before

the algal resources are overexploited”.

The benthic macroalgal species diversity in the waters off southern Oman has been substantively identified as a result of the Project. A significant impact has been the large number of peer reviewed publications that have resulted from the project and the ongoing commitment between ONHM, NHM UK and HUM to continue to work together on the algal collections.

- **To what extent has the project achieved its goal, i.e. how has it helped the host country to meet its obligations under the Biodiversity Convention (CBD), or what indication is there that it is likely to do so in the future? Information should be provided on plans, actions or policies by the host institution and government resulting directly from the project that building on new skills and research findings.**

There is no objectively verifiable evidence that the project has contributed towards achieving the above stated goal. There is no evidence that there are any plans, actions or policies by the host institution and government resulting directly from the project. As indicated above no management plan has been developed because the relevant institution indicated other priorities. However, the Project has developed materials and the host institution is well placed as a Museum with an educational remit to raise awareness concerning the importance of the benthic macroalgal biodiversity of southern Oman.

- **Please complete the table in Appendix I to show the contribution made by different components of the project to the measures for biodiversity conservation defined in the CBD Articles.**

See appendix 1.

- **If there were training or capacity building elements to the project, to what extent has this improved local capacity to further biodiversity work in the host country and what is the evidence for this? Where possible, please provide information on what each student / trainee is now doing (or what they expect to be doing in the longer term).**

Training/capacity building was a limited component of the Programme. The principal Omani counterpart continues to work in the Oman Natural History Museum and acts as a focal point for the algal collection. The expatriate herbarium assistant continues to work on the collection.

- **Discuss the impact of the project in terms of collaboration to date between UK and local partner. What impact has the project made on local collaboration such as improved links between Governmental and civil society groups?**

The Omani host institution, the ONHM, works closely with educational and other organisations to disseminate information about biodiversity. Other institutions deal with issues of environmental management and support local collaborative initiatives.



As a result of the Darwin Project the ONHM now has the necessary dissemination materials and technical links with the NHM-UK and HUM to take things forward as appropriate.

- **In terms of social impact, who has benefited from the project? Has the project had (or is likely to result in) an unexpected positive or negative impact on individuals or local communities? What are the indicators for this and how were they measured?**

The principal social impact has been on the educational sector. There has been no detectable impact on the social wellbeing of local stakeholders who depend on the benthic macroalgal biodiversity of the southern region of Oman.

The project is extremely unlikely to have had a negative impact on individuals or local communities.

The social assessments needed to benchmark project impact were not specified in the project design and would have required substantial resourcing. Development and implementation of the management plan proposed as a project output would have provided an impact but the plan was not developed because it was not identified as a priority by the relevant Omani institution.

6. Project Outputs

- **Quantify all project outputs in the table in Appendix II using the coding and format of the Darwin Initiative Standard Output Measures.**

See appendix II.

- **Explain differences in actual outputs against those in the agreed schedule, i.e. what outputs were not achieved or only partly achieved? Were additional outputs achieved? Give details in the table in Appendix II.**

See appendix II.

- **Provide full details in Appendix III of all publications and material that can be publicly accessed, e.g. title, name of publisher, contact details, cost. Details will be recorded on the Darwin Monitoring Website database.**

See appendix III.

- **How has information relating to project outputs and outcomes been disseminated? Will this continue or develop after project completion and, if so, who will be responsible and bear the cost of further information dissemination?**

Information relating to Project outputs and outcomes has been disseminated



through a Website, a Museum display and an handbook. The ONHM has been approached with a proposal by HTS to maintain the web site after the end of the Project. There has been no formal response at the time of writing this report. The materials necessary to produce further editions of the handbook have been provided. The Museum has a recurrent budget and can continue basic project activities.

The Museum display has been displayed in the Whale hall in the ONHM since the launch on 14th October and this display is permanent.

The scientific community will continue to catalogue and identify samples using their own available funding.

7. Project Expenditure

The initial offer letter dated 09th June 1999 specified a schedule of three payments to HTS: (1) £58,231 in financial year ending 31 March 2000; (2) £59,731 in 2000/2001 and (3) £50,011 in 2001/2002 totalling £167,973.

Audit certificates were provided for 1999/2000, 2000/2001, and 2001/2002 (interim certificate). The final audit certificate for 2001/2002 including expenditure to the end of November 2003 is not yet available but will be delivered with the request for payment of the retention of £5,451.

Permission was given by DEFRA to carry over funds into 2003/2004 on 14th March 2003.

- **Tabulate grant expenditure using the categories in the original application.**

<i>Item</i>	<i>Budget</i> <i>a</i>	<i>Expenditure</i> <i>b</i>	<i>Balance</i> <i>c = a - b</i>	<i>%</i> <i>(100/a) x c</i>
Total	167,973	168,570	-598	100.36

- **Highlight agreed changes to the budget.**

There were no agreed changes in the budget.

- **Explain any variation in expenditure where this is +/- 10% of the budget.**

8. Project Operation and Partnerships

- **How many local partners worked on project activities and how does this differ to initial plans for partnerships? Who were the main partners and the most active partners, and what is their role in biodiversity issues? How were partners involved in project planning and implementation? Were plans modified significantly in response to local consultation?**

Principal local partners included the ONHM, the DG of Nature Conservation within the MRMEWR (responsible for the National Biodiversity Strategy and the Coastal Zone Management Plan) and the Marine Laboratories, Raysut, of the Ministry of Agriculture and Fisheries. These local partners were as projected in the initial Project framework.

Project partners were involved in consultative meetings during project planning and implementation and commented on/approved dissemination materials.

The only plan that was substantively modified in response to local consultation was the proposed sub-output "Develop a plan for the in-situ conservation of Oman's macroalgal communities" (See section 3.7 above). The responsible Ministry indicated that this was not a priority when the issue was raised.

- **During the project lifetime, what collaboration existed with similar projects elsewhere in the host country? Was there consultation with the host country Biodiversity Strategy (BS) Office?**

The ONHM is the focal point for collaboration on collection and cataloguing of biodiversity within the Sultanate and was the host institution for the Project. The Project participated in a survey of the Hallaniyat Islands in January/February 2000.

During 2000/2001 there was some collaboration with the Oman Whale and Dolphin research group. Two members of the group worked with the Darwin Project on a voluntary basis.

Dr Barry Jupp has produced a guide to the Marine Algae of Oman, and was able to access the Darwin Initiative collection in the ONHM for reference. He also reviewed the Darwin funded algal handbook in his role as technical adviser in the MRMEWR.

Mr Ali Amer al Kiyumi DG of Nature Protectorates, MRMEWR was an advisor on the Project. The host country biodiversity strategy office falls under his remit.



- **How many international partners participated in project activities? Provide names of main international partners.**

Two international groups participated in Project activities.

- Jenny Bryant, Curator of Algae, Botany Department, Natural History Museum, UK
- Prof. Mike Wynne, Herbarium, University of Michigan, USA

- **To your knowledge, have the local partnerships been active after the end of the Darwin Project and what is the level of their participation with the local biodiversity strategy process and other local Government activities? Is more community participation needed and is there a role for the private sector?**

There is an ongoing commitment to maintaining the algal collection at the ONHM (Appendix V.1) and correspondence between ONHM and NHM UK (Appendix V.3,4,5) and HUM. The Museum display provided by the Project is likely to raise general awareness about the algal biodiversity of southern Oman.

Mr Ali Amer al Kiyumin DG of Nature Protectorates was an advisor on the Project. The host country biodiversity strategy office falls under his remit and it reasonable to suppose that, since he is aware of the Darwin legacy, it will be considered in any relevant strategy development.

The development and implementation of development plans is not the responsibility of the ONHM but of other Government agencies including the MRMEWR. The MRMEWR did not see a role for the Project in this process. The process of community participation is appropriate but needs to be initiated by relevant agencies.

There is a role for the private sector particularly where the private sector is a stakeholder in the resource base and where it has a public communications interest in funding awareness raising activities. Both the ONHM and the MRMEWR have public communications capabilities and it is a matter of mobilising them. There is no reason why this mobilisation should not be possible given the Darwin legacy and local interest.

9. Monitoring and Evaluation, Lesson learning

- **Please explain your strategy for monitoring and evaluation (M&E) and give an outline of results. How does this demonstrate the value of the project? E.g. what baseline information was collected (e.g. scientific, social, economic), milestones in the project design, and indicators to identify your achievements (at purpose and goal level).**

The Project was not designed using a logframe. The Project was monitored against the indicators of achievement related to the Standard output measures detailed in the project proposal and presented in Appendix II.

Scientific, social and economic baseline information was not collected since the focus of the Project was on collection and cataloguing of algae. Whilst social and economic baseline information would have been appropriate for development of a management plan the Responsible Ministry indicated that the plan was not required.

- **During the project period, has there been an internal or external evaluation of the work or are there any plans for this?**

All the Publications have been peer reviewed and approval for all dissemination products has been given by the ONHM. There are no plans for external evaluation.

- **What are the key lessons to be drawn from the experience of this project? We would welcome your comments on any broader lessons for Darwin Initiative as a programme or practical lessons that could be valuable to other projects, as we would like to present this information on a website page.**

The main lesson learned were:-

- (1) Host country partners must “own” the Project to maximise the Project legacy.
- (2) Better ownership is likely to result if host country partners are significantly involved in the design of the Project. This was not the case for this Project.
- (3) Support from the Embassy significantly helped to progress the Project. UK in-country diplomatic missions should be a regular point of call during country visits if there is interest.
- (4) It is better to spend time in Country helping progress a mutually agreed project plan than outside trying to implement one remotely (and unilaterally).
- (5) Involvement of technical partners will sustain the Project legacy. In this case key partners (ONHM, NHM UK and HUM) have an ongoing



professional commitment to conserving and reporting on the collections.

It is suggested, based on our experience, that it should be a pre-condition for approval of Darwin Projects involving heavy host country participation that:-

- (1) proposals include a written commitment from key Country partners to deliver key project outputs.
- (2) there be contact with, and a written commitment to Project support from, the British Embassy or High Commission in the Project country(ies).
- (3) that Project design should explicitly identify any “approvals” required for delivery of products and specify the date by which approval should be obtained and who approval is required from.
- (4) Local partners should “sign-off” on the proposal.

10. Darwin Identity:

- **What effort has the project made to publicise the Darwin Initiative, e.g. where did the project use the 'Darwin Initiative' logo, promote Darwin funding opportunities or projects? Was there evidence that Darwin Fellows or Darwin Scholars/Students used these titles?**

The Darwin logo has been placed on all products and the web page has a section on the Darwin Initiative and a link to the Darwin Initiative web site. The handbook has a written preface by the Darwin Secretariat.

No Darwin Fellows or Darwin Scholars/Students were funded by and/or involved in the Project.

- **What is the understanding of Darwin Identity in the host country? Who, within the host country, is likely to be familiar with the Darwin Initiative and what evidence is there to show that people are aware of this project and the aims of the Darwin Initiative?**

The understanding of the Darwin identity is limited within the host Country. Firstly the Project has not focussed on disseminating the wider Darwin Initiative. The focus of the Project was on collection and cataloguing of algae and raising awareness about conservation of this valuable resource. Secondly the substantive dissemination products, which include reference to the Darwin Initiative, were only finalised and released at the end of the Project.

The major project partners are familiar with the Darwin initiative. The wider community is unlikely to be. The publicity associated with the launch on 14th October 2003 should have raised awareness about the Project and it is anticipated that access to the website will draw attention to the Darwin Initiative. Comments in the visitors book at the Museum might provide some evidence of raised awareness. However, it would need a substantial and focussed investment in public communications to influence a change in attitudes and opinions and pre- and post-project attitude and opinion survey to confirm

the change.

- **Considering the project in the context of biodiversity conservation in the host country, did it form part of a larger programme that dwarfed Darwin funding or was it recognised as a distinct project with a clear identity?**

It was recognised as a distinct project with a clear identity.

11. Leverage

- **During the lifetime of the project, what additional funds were attracted to biodiversity work associated with the project, including additional investment by partners?**

Substantial additional time detailed in Section 14 was allocated to the biodiversity work associated with the Project. There was no additional financial investment by partners although efforts were made to mobilise funds for hosting the Project website after the end of the Project but without success (to date).

- **What efforts were made by UK project staff to strengthen the capacity of partners to secure further funds for similar work in the host country and were attempts made to capture funds from international donors?**

The ONHM, HUM, and NHM - UK all have an ongoing commitment to maintaining the collections. All parties have capacity to secure further funds for additional work provided that this work has priority for them.

No efforts were made to capture funds from non-arab international donors because Oman is not a "least developed country", is not an "heavily indebted partner country" and does not have a "poverty reduction strategy" paper. It is possible that funds could be solicited from Arab donors. However, the host country partner felt that seeking substantial funds was neither appropriate nor necessary since there is a recurrent budget that can support projected ongoing activities.

12. Sustainability and Legacy

- **What project achievements are most likely to endure? What will happen to project staff and resources after the project ends? Are partners likely to keep in touch?**

There is: (a) commitment by ONHM to continuing technician support for conserving the collection; (b) conservation of the duplicate collection in the NHM UK and commitment to collaborate with ONHM on the conservation of the duplicate collection; (c) conservation of the duplicate collection in the HUM and commitment by MUH to continue identifying the collection and notifying the other partners of this identification.

The collections and the cataloguing of the collections are likely to endure since there are staff (ONHM, and NHM UK) employed on recurrent budgets to ensure that they are maintained. The HUM has an ongoing interest in publishing materials based on the collections.

Partners are likely to keep in touch so long as the collections are being catalogued.

- **Have the project's conclusions and outputs been widely applied? How could legacy have been improved?**

The Project's conclusions and outputs have been published in peer review journals and therefore have a sustainable legacy. The legacy could have been improved if a host country national had developed a specific interest in algal taxonomy and become a champion for the Project. This did not happen. The likelihood of this happening would have been greater if the project had been developed in a more participatory way with the host country institutions.

- **Are additional funds being sought to continue aspects of the project (funds from where and for which aspects)?**

No. However, recurrent funds are available for maintaining the Collections at the ONHM, NHM - UK and HUM.

13. Post-Project Follow up Activities

Not applicable.

14. Value for money

- **Considering the costs and benefits of the project, how do you rate the project in terms of value for money and what evidence do you have to support these conclusions?**

The Project provides value for money in that (a) it is unlikely that the outputs would have been achieved in any other way; (b) staff time was provided at cost.

The Project comprises three distinct elements. (1) Field collection; (2) processing and identification of algae including the algal database; and (3) dissemination of results.

The focus of the Project until October 2001 was on **field collection**. The costs of working using SCUBA in remote locations were substantial. Volunteers were used and provided value added. However, paid staff supervised the process. It is unlikely that the collections could have been made for less unless the expeditions had been undertaken entirely by volunteers. An entirely volunteer expedition might never have happened and could perhaps have failed to deliver if it had. These risks were minimised by employing staff.

Processing and identification of algae from the very large field collection has been ongoing and has involved substantial effort. Development and population



of the algal database, and physical processing and cataloguing of the very large number of specimens required great rigor and was very time consuming. It could not have been done more cost-effectively unless it had been done by volunteers.

There has been substantial **dissemination of results** including a large number of publications which have basically been produced on a voluntary basis. This high level of publication provided substantial value added. The time taken for developing and maintaining the web site was substantial since at least one major revision was required. Producing the handbook and the Museum display required many revisions. Costs for production were reasonable and particularly so for the Museum display considering that the cost included high quality scanning and printing of the display images, layout and final encapsulation.

Identification of the algae and associated publications are ongoing even though the funding has ended.

Additional staff time allocated to the project and not funded by Darwin:-

- **2001-2002:** Technician at HUM (5% = £1,000), Technician at ONHM (5% = £500) = £1,500.
- **April 2002-October 2003:** Technician at NHM - UK (5% = £1,500), Technician at HUM (5% = £1,500), Technician at ONHM (5% = £750). Senior Researcher at HUM (40% = £18,000). HTS unpaid time 30 days @£150/day = £4,500 = £26,250.
- **Projected in future:** Technician at NHM - UK (5% = £1,000), Technician at HUM (5% = £1,000), Technician at ONHM (5% = £750). Senior Researcher at HUM (10% = £4,500) = £6,750.

Author(s) / Date

Dr Alec Dawson Shepherd, Project Co-ordinator, HTS Development Ltd.
30th November 2003.

15.

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

Project Contribution to Articles under the Convention on Biological Diversity		
Article No./Title	Project %	Article Description
6. General Measures for Conservation & Sustainable Use	0 (5*)	Develop national strategies which integrate conservation and sustainable use.
7. Identification and Monitoring	50 (35*)	Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities which have adverse effects; maintain and organise relevant data.
8. In-situ Conservation	0 (15*)	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.
9. Ex-situ Conservation	0 (0)	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.
10. Sustainable Use of Components of Biological Diversity	0 (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.
11. Incentive Measures	0 (0)	Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.
12. Research and Training	0 (0)	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).



13. Public Education and Awareness	40 (35)	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.
14. Impact Assessment and Minimizing Adverse Impacts	0 (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.
15. Access to Genetic Resources	0 (0)	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.
16. Access to and Transfer of Technology	0 (0)	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.
17. Exchange of Information	10 (10)	Countries shall facilitate information exchange and repatriation including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge
19. Bio-safety Protocol	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.
Total %	100%	Check % = total 100

* Figures in brackets relate to percent specified in on-line questionnaire submitted to ECTF in April 2001

16.

Appendix II: Outputs

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

TRAINING OUTPUTS

Code	Total to date	Proposed	Delivered
Training outputs			
1a	Number of people to submit PhD thesis	0	0
1b	Number of PhD qualifications obtained	0	0
2	Number of Masters qualifications obtained	0	0
3	Number of other qualifications obtained	0	0
4a	Number of undergraduate students receiving training	0	0
4b	Number of training weeks provided to undergraduate students	0	0
4c	Number of postgraduate students receiving training (not 1-3 above)	0	0
4d	Number of training weeks for postgraduate students	0	0
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification(i.e not categories 1-4 above)	0	0
6a/b	Number of people receiving other forms of short-term education/training (i.e not categories 1-5 above)	2 museum curators trained in database skills, website and interpretation techniques for 6 weeks each.	2 weeks (estimated)
	Number of training weeks not leading to formal qualification	A one week workshop on curation techniques in Oman for technical staff of Museum, Ministry and University	No workshop undertaken. Individual training provided
7	Number of types of training materials produced for use by host country(s)	1 poster 1 Museum display	Algal curation document 200 Posters produced but not of adequate quality. Museum display produced. Booklet produced (see output "10")

RESEARCH OUTPUTS

Code	Total to date	Proposed	Delivered
Research Outputs			
8	Number of weeks spent by UK project staff on project work in host country(s)	42	40 weeks elapsed time (much of the time involving two people so more like 60 weeks)
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	1	0 – Responsible Ministry indicated that not required due to other priorities.
10	Number of formal documents produced to assist work related to species identification, classification and recording.	1 booklet	Handbook designed and approved (Appendix V.1,6) and on website. 150 copies printed and handed over to ONHM on 14 th October 2003. See also output “7” (algal curation document)
11a/b	Number of papers published or accepted for publication in peer reviewed journals	At least 4 papers published	10 published, 2 in press and 2 submitted. 4 Abstracts.
	Number of papers published or accepted for publication elsewhere		2 articles published
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	1 database established	1: Handed over March 2003 (Appendix V.1)
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	0	0
13a	Number of species reference collections established and handed over to host country(s)	2	3: 1 collection to host country ONHM (Appendix V.1), one to NHM - UK (Appendix V.3). One to HUM.
13b	Number of species reference collections enhanced and handed over to host country(s)	1	1 (some existing specimens incorporated)

DISSEMINATION OUTPUTS

Code	Total to date	Proposed	Delivered
Dissemination outputs			
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	0	0
14b	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/disseminated.	0	0
15a	Number of national press releases or publicity articles in host country(s)	National press release	3. See Appendix V.2 for October 2003.
15b	Number of local press releases or publicity articles in host country(s)	0	0
15c	Number of national press releases or publicity articles in UK	1 National Press release, UK	Prepared
15d	Number of local press releases or publicity articles in UK	0	0
16a	Number of issues of newsletters produced in the host country(s)	0	0
16b	Estimated circulation of each newsletter in the host country(s)	0	0
16c	Estimated circulation of each newsletter in the UK	0	0
17a	Number of dissemination networks established	Dissemination network established on WWW	Web site approved (Appendix V.6)
17b	Number of dissemination networks enhanced or extended	0	0
18a	Number of national TV programmes/features in host country(s)	2	2
18b	Number of national TV programme/features in the UK	0	0
18c	Number of local TV programme/features in host country	0	0
18d	Number of local TV programme features in the UK	0	0



Code	Total to date	Proposed	Delivered
19a	Number of national radio interviews/features in host country(s)	1	0
19b	Number of national radio interviews/features in the UK	0	0
19c	Number of local radio interviews/features in host country (s)	0	0
19d	Number of local radio interviews/features in the UK	0	0

PHYSICAL OUTPUTS

Code	Total to date	Proposed	Delivered
Physical Outputs			
20	Estimated value (£s) of physical assets handed over to host country(s)	3500	2,835: Equipment/books handed over in 1999. Checked in March 2003 and present. Computer in good condition but not being used.
21	Number of permanent educational/training/research facilities or organisation established	0	0
22	Number of permanent field plots established	5	0: 0 installed due to lack of opportunity/perceived need and local capacity.

FINANCIAL OUTPUTS

Code	Total to date	Proposed	Delivered
Financial Outputs			
23	Value of additional resources raised for project	£27,000	£27,750: See section 14 above.



17.

Appendix III: Publications

Mark (*) all publications and other material that you have included with this report

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (e.g. contact address, website)	Cost £
*University Journal	Wynne, M.J. (1999). New records of Benthic Marine Algae from the Sultanate of Oman. <i>Contr. Univ. Michigan Herb.</i> 22:189-208.	Contr. Univ. Michigan Herb.	M. Wynne**	N/A
*Journal	Wynne, M.J. (2000). Further interesting connections between the marine algal floras of Japan and the Arabian Sea. <i>Phycological Research</i> 48: 211-220.	Phycological Research	M.Wynne**,	N/A
*Journal	Wynne, M.J (2001). New records of benthic marine algae from the Sultanate of Oman, northern Arabian Sea. II. <i>Nova Hedwigia</i> 72 3-4:347-374.	Nova Hedwigia	M.Wynne**,	N/A
*University Journal	Wynne, M. J (2001). New records of benthic marine algae from the Sultanate of Oman, northern Arabian Sea. III. <i>Contributions University Michigan Herbarium</i> 23:389-346.	Contr. Univ. Michigan Herb.	M. Wynne**	N/A
*Journal	Wynne, M.J. (2001). <i>Stirnia prolifera</i> gen. et sp. nov. (Rhodymeniales, Rhodophyta) from the Sultanate. of Oman. <i>Botanica Marina</i> 44: 163-169.	Botanica Marina	M.Wynne**,	N/A
*Journal	Wynne, M.J and F. Leliaert. (2001). <i>Pedobesia simplex</i> (Kützting) comb. Nov. (Chlorophyta), a new name for <i>P. lamourouxii</i> and its first report from the Indian Ocean. <i>Cryptogamie, Algologie</i> 22: 3-14.	Cryptogamie, Algologie	M.Wynne**,	N/A
*Conference abstract	Wynne, M.J (2001). The Benthic Marine Algal Flora of the Sultanate of Oman. 72. 7 th International Phycological Congress, Thessaloniki, Greece, 18-25 August 2001. [Abstract].	Int. Phycological Congress	M.Wynne**,	N/A
*Journal abstract	Wynne, M.J. (2002). The status of our understanding of the benthic marine algal flora of the Sultanate of Oman and the broader biogeographical implications. <i>Botany 2002, Tsukuba City, Japan</i> , 19-24 July 2002, p. 21. [Abstract.]	Botany, 2002, Tsukuba City, Japan	M.Wynne**,	N/A
Journal Abstract	Wynne, M.J. (2002). Highlights of recent collections of marine algae from the Sultanate of Oman. <i>Botany 2002 Abstracts (University of Wisconsin-Madison), (Supplement):</i> 83 [Abstract.]	Botany 2002 Abstracts	M.Wynne**,	N/A
*Journal	Wynne, M.J. (2002). A description of <i>Plocamium fimbriatum</i> sp. Nov. (Plocamiales, Rhodophyta), from the Sultanate of Oman, with a census of currently recognized species in the genus. <i>Nova Hedwigia</i> 75: 333-356.	Nova Hedwigia	M.Wynne**,	N/A
*Journal	Wynne, M.J. (2002). <i>Turbinaria foliosa</i> sp. nov. (Fucales, Phaeophyceae) from the Sultanate of Oman, with a census of currently recognized species in the genus <i>Turbinaria</i> . <i>Phycological Research</i> 50: 283-293	Phycological Research	M.Wynne**,	N/A
*Journal	Wynne, M.J. (2002). <i>Jolyna furcata</i> sp. nov. (Scytosiphonales, Phaeophyceae) from the Sultanate of Oman. <i>Cryptogamie, Algologie</i> 24: 51-61	Cryptogamie, Algologie	M.Wynne**,	N/A
*Journal	Wynne, M. J., & Y. S. D. M. de Jong. (2002). <i>Dipterocladia arabiensis</i> sp. nov. (Dasyaceae, Rhodophyta) from the Sultanate of Oman. <i>Botanica Marina</i> 45: 77-86	Botanica Marina	M. Wynne**	N/A
Conference Abstract	Wynne, M.J., (2003). New discoveries regarding the benthic marine algal flora of the Sultanate of Oman. Program for the Joint Meetings of the Phycological Society of America and the Society of Protozoologists, 14-19 June 2003 Gleneden Beach, Oregon, p. 82 [Abstract.]	Joint Meetings of the Phycological Society of America and the Society of Protozoologists	M.Wynne**	N/A



*Journal	Wynne, M.J (2003) <i>Leveillea major</i> sp. nov. (Rhodomelaceae, Rhodophyta) from the Sultanate of Oman. <i>Botanica Marina</i> 46: 357-365	Botanica Marina	M.Wynne**,	N/A
Journal	M. J. Wynne. (2003). <i>Centroceras secundum</i> sp. nov. (Ceramiaceae, Rhodophyta) from the Sultanate of Oman. <i>Nova Hedwigia</i> 77:125-137	Nova Hedwigia	M.Wynne**,	N/A
Journal	M. J. Wynne. (In press). The benthic marine algal flora of the Sultanate of Oman and its biogeographical relationships. <i>Japanese Journal of Phycology (Sorui) Suppl.</i>	Japanese Journal of Phycology	M.Wynne**,	N/A
Journal	Wynne, M.J. (submitted). The benthic marine algal flora of the Sultanate of Oman and its biogeographical relationships. <i>Japanese Journal of Phycology (Sorui)</i> 51 (Suppl.).	Japanese Journal of Phycology	M.Wynne**,	N/A
Journal	Wynne, M.J & D. W. Freshwater. (in press). <i>Gelidium omanense</i> (Gelidiaceae, Rhodophyta) from the Sultanate of Oman. <i>Botanica Marina</i> 47:	Botanica Marina	M.Wynne**,	N/A
Journal	Wynne, M.J (submitted). <i>Myriogloea pedicellata</i> sp. nov. (Chordariaceae, Phaeophyceae) from the Sultanate of Oman, northern Arabian Sea. <i>Cryptogamie, Algologi</i> .	Cryptogamie, Algologi.	M.Wynne**,	N/A
University Journal	Wynne, M.J (submitted). Two new species of <i>Bryopsis</i> . (Ulvophyceae, Chlorophyta) from the Sultanate of Oman, with a census of currently recognised species in the genus. <i>Contributions from the University of Michigan Herbarium</i> .	Contr. Univ. Michigan Herb.	M.Wynne**,	N/A
*Article	Choudhry, Sanjay (2000). Virgin islands. Pp.24-33. <i>Oman Today</i> , February-March 2000.	Oman Today	Oman Today. P. O. Box 2616, Ruwi 112, Muscat	N/A
*Guide	Dodsworth, E (1999). <i>Algal Preservation Booklet</i> . Pp. 17. Algal Biodiversity Project, Oman. <i>HTS Development Ltd</i> .	HTS Development Ltd	HTS Development Ltd	N/A
*Article	Dodsworth, E (2000). Weed thrillers. Pp. 54-62. <i>Oman Today</i> , April-May 2000.	Oman Today	Oman Today. P. O. Box 2616, Ruwi 112, Muscat	N/A
*Website	Website		HTS Development Ltd	N/A
*Cd-Rom	Website	HTS Development Ltd	Copy to Secretariat	
*Handbook	HTS Development Ltd (2003). <i>Macroalgal Biodiversity of Oman</i> . Pp. 57.	HTS Development Ltd	HTS Development Ltd	N/A
Museum Display	Museum Display 2m high by 3 panels 1m, 1m and .8 m (2.8m) in ONHM Muscat, Oman	N/A	N/A	N/A

**mwynne@umich.edu. Department of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor, MI 48109, USA

Appendix IV: Darwin Contacts

Project Title	Collection and Cataloguing of Algae for the Natural History Museum of Oman
Ref. No.	162/8/204
UK Leader Details	
Name	Alec Dawson Shepherd
Role within Darwin Project	Completion Co-ordinator
Address	HTS Development Ltd, Thamesfield House, Boundary Way, Hemel Hempstead, Herts, HP2 7SR, UK
Phone	
Fax	
Email	
Other UK Contact (if relevant)	Not relevant
Partner 1 (if relevant)	
Name	Ms Saddiqa bint Ramdhan Al-Haj Suliman
Organisation	Oman Natural History Museum
Role within Darwin Project	Local counterpart and co-ordinator, Supervisor ONHM
Address	Ministry of Heritage and Culture, P.O. Box 668 Muscat, Postal Code 113, Sultanate of Oman
Fax	
Email	
Partner 2	
Name	Ms Jenny Bryant, Curator of Algae, Dept. of Botany
Organisation	The Natural History Museum
Website address	
Role within Darwin Project	Curation of triplicate of Project algal collection
Address	Cromwell Road, London, SW7 5BD, UK.
Fax	
Email	
Associate	
Name	Prof. Mike Wynne
Organisation	Herbarium of the University of Michigan
Role within Darwin Project	Taxonomic support
Address	Department of Ecology and Evolutionary Biology University of Michigan , Ann Arbor, MI 48109, USA
Fax	
Email	



19.

Appendix V: Correspondence etc