
DPLR5\1086

CORA – Coral Outplanting and Restoration for *Astroides calycularis*

The Orange Cup Coral, *Astroides calycularis* (hereafter, *Astroides*), an endemic in the Western Mediterranean is threatened due to several factors such as habitat destruction, fishing impacts and invasive species. The proposed restoration project aims to restore *Astroides* colonies by transplanting corals fragments onto an artificial reef. By attaching these fragments directly onto the shipwreck, the project seeks to promote coral growth and biodiversity in the area, ultimately supporting the recovery of *Astroides* populations and enhancing marine ecosystem health.

PRIMARY APPLICANT DETAILS

Name Research
Surname Office
Website <https://www.unigib.edu.gi/>
Tel (Work) [REDACTED]
Email (Work) [REDACTED]
Address [REDACTED]

CONTACT DETAILS

Title Dr
Name Awantha
Surname Dissanayake
Organisation University of Gibraltar
Website (Work) [REDACTED]
Tel (Work) [REDACTED]
Email (Work) [REDACTED]
Address [REDACTED]

DPLR5\1086

CORA – Coral Outplanting and Restoration for Astroides calycularis

Section 1 - Project Title & Contact Details

Q1. Project Title

CORA – Coral Outplanting and Restoration for Astroides calycularis

Q2. Please select whether you are applying as an organisation or as an individual (Guidance section 3 and Guidance Glossary)

☒ Organisation

PRIMARY APPLICANT DETAILS

Name	Research
Surname	Office
Website	
Tel (Work)	
Email (Work)	
Address	

CONTACT DETAILS

Title	Dr
Name	Awantha
Surname	Dissanayake
Organisation	University of Gibraltar
Website (Work)	
Tel (Work)	
Email (Work)	
Address	

GMS ORGANISATION

Type	Organisation
Name	University of Gibraltar
Phone (Work)	
Email (Work)	
Website (Work)	
Address	

Section 2 - Overseas Territory(ies)

Q3. Please state whether the same (or a similar) project proposal has previously been submitted (or you are planning to submit it) to the UK Government for funding. This includes through Darwin Plus Local, Defra's other Darwin Plus grant schemes or other UK Government funding mechanisms. Failure to share this information may result in the application being ineligible (see Guidance section 2.1.1).

☒ No

Q4. Overseas Territory (Guidance section 1.3):

Which UK Overseas Territory(ies) will your project be working in?

☒ Gibraltar

*** if you have indicated a territory group with an asterisk, please give detail on which territories you are working on here:**

No Response

In addition to the UKOT(s) you have indicated, will your project directly benefit any other UK OT(s) or country(ies)?

☒ No

Section 3 - Project Partners

Q5. Project partners (Guidance section 3.2)

In this section, please give details of all the partners involved (including the Lead Organisation) and provide a summary of their roles.

Project Leader name:
(Guidance section 3.1)

Dr Awantha Dissanayake

Lead Organisation name: (if applying as an organisation; Guidance section 3.1)	University of Gibraltar
Lead Organisation Website (if applicable):	https://www.unigib.edu.gi/
Is the Lead Organisation based in a UKOT where the project is working? (Guidance section 3.1)	☒ Yes
List other partners involved and where are they based:	HM Department of Environment, Sustainability, Climate Change and Heritage (DESCCH), Gibraltar. Scientific advisors working on the same species located along the Spanish coastline (Alboran Sea).
Summary of roles and responsibilities of each partner in the project:	DESCCH; Provision of necessary permits required. Support in logistics. Support in outreach activities and in liaising with key stakeholders and local NGOs, including Gibraltar's Environmental Safety Group (ESG), Gibraltar Ornithological & Natural History Society (GONHS), Environmental Agency, Gibraltar Port Department, local SCUBA diving organisations. Assistance in long-term monitoring Stephen Warr (Chief Environment Officer) and Clive Crisp (Environment Officer) will be regular collaborators. Scientific advisors. Based on the extensive work that has been carried out in Spain in the field of Coral Restoration, we will establish contact with those leading institutions to learn from their experiences
I confirm that all listed partners are aware of this application and have indicated support:	Checked

Attach a Cover Letter for your application (Guidance section 4.2).

 [DPLR5 1086 Coral Cover-letter](#)

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Section 4 - Project Summary & Description

Q6. Project Summary (Guidance section 3.8)

Please provide a brief summary of your project. This may be used in communication activities and/or published online, if your application is successful.

The Orange Cup Coral, *Astroides calycularis* (hereafter, *Astroides*), an endemic in the Western Mediterranean is threatened due to several factors such as habitat destruction, fishing impacts and invasive species. The proposed restoration project aims to restore *Astroides* colonies by transplanting corals fragments onto an artificial reef. By attaching these fragments directly onto the shipwreck, the project seeks to promote coral

growth and biodiversity in the area, ultimately supporting the recovery of *Astroides* populations and enhancing marine ecosystem health.

Q7a. Description (Guidance section 2.1 and 6)

Please provide a description of your project, including:

- the overall objective
- the current situation and the problem the project is trying to address
- what success will look like and how you will measure it

Please be as specific as possible when describing the project, using quantified data and evidence where available. You may wish to consider: what are the specific threats to the environment that the project will attempt to address, and what should we know about these threats? What does your successful project look like? And how will you demonstrate whether and how your project has been successful?

Overall Impact: Species restoration in BGTW;

Project aim: Upscale coral transplantation efforts in Gibraltar

Project objective: Sustainable restoration efforts by coral gardening and enhancement of biodiversity

The Orange Cup Coral, *Astroides calycularis* (Pallas, 1766) is an endemic coral species in the Western Mediterranean but is most threatened by habitat destruction, fishing impacts and invasive species. In 2023, the University of Gibraltar was awarded a small grant from a local law firm (£7000) to assess coral restoration efforts in Gibraltar's waters (Gibraltarlaw 2023). After successful implementation of this pilot project, this proposal seeks to 'up-scale' based on the feasibility study (see Q6b). This effort was limited in scope based on funds, but has provided valuable information on successful transplantation, survivorship and monitoring methodology. Any future restoration efforts through a Darwin project will therefore benefit from continued support and established frameworks that ensure that up-scaling of restoration efforts will be successful (see Q6b).

The benefits corals provide are well known both to scientists as well as the public. Coral restoration projects have gained momentum in the last few years to combat coral reef decline; however, efforts are overwhelmingly focussed on tropical coral species (Boström-Einarsson et al 2020). Our 2023 funded project helped raise awareness locally that corals even exist in Gibraltar's 'backyard' (Gibraltarlaw 2024).

The short-term project achieved a 100 % success rate with survival of all 23 transplanted coral colonies demonstrating the feasibility of using adhesives to restore naturally dislodged colonies. Monitoring tools, including photo analysis methodology and a specifically designed colour health chart, revealed that colonies did not show decrease in size and 96 % maintained their original colour overall, suggesting minimal stress post-transplantation (up 12 weeks). The project also encompassed a cost analysis and explored establishing a minimum fragment size for transplantation, ensuring both the economic feasibility and biological viability of restoration efforts. The public and stakeholders were engaged through initiatives such as an 'Adopt a Coral programme', where participants were kept informed about the progress and the associated benefits they provide (Gibraltar Coral Project 2024) and strategic outreach via social media digital platforms, fostering community involvement in conservation efforts.

Building on the successful feasibility and transplantation assessment, this project aims to scale up restorative efforts by:

1. Establishing a coral 'nursery' to determine the most suitable coral colonies for transplantation (based on thermal tolerance).
2. Scale up the extent and distribution of the transplanted 'corals of opportunity'
3. Engage with key stakeholders (particularly divers) to build on existing community buy-in to ensure long-term success

A1. Coral Nursery - Rearing

Activity Cultivate and rear coral fragments in a controlled nursery environment.

Outputs: Number of coral fragments successfully reared

A2. Coral Transplantation

Activity: Transplant coral fragments to degraded reef areas for restoration.

Outputs: Number of coral fragments transplanted, area of reef restored.

A3. Coral Gardening and Maintenance

Activity: Monitor and maintain transplanted and nursery corals, removing threats such as invasive algae or fishing gear

Outputs: Frequency of maintenance visits, types of threats managed (e.g., algae, predators).

A4. Science Communication and Outreach

Activity: Disseminate research findings and coral conservation knowledge to the public and scientific community.

Outputs: Number of outreach events (min 2), Report Card output, social media engagement.

A5. Stakeholder Communication and Public Engagement

Activity : Engage with stakeholders, including government, NGOs, and the local community, to promote coral conservation initiatives.

Outputs: Stakeholder meetings or workshops (min 4), public engagement initiatives (min 4.).

A6. Capability and Capacity-Building

Activity: Provide training and resources to develop skills and knowledge in coral conservation within the local community and scientific teams.

Outputs: Training sessions conducted (min. 2), number of individuals trained (min 20).

Q7b. Long-term sustainability (Guidance section 2.1 and 6)

Please describe the long-term benefits of the project and the change it will bring about. How will the outcomes of the project be sustained after the funding is finished?

By enabling an active restoration approach using a coral nursery and monitoring of the donor site, the project directly ensures the true long-term protection of an endemic coral species in Gibraltar's waters. The transplant site will benefit from a) current legal and enforcement frameworks initiated by DESCCH as a micro-reserve, b) is a well-used recreational dive site for local and visiting divers c) as an artificial reef is important in terms of local biodiversity.

The proposed project will provide training for divers on various aspects of habitat monitoring, which will greatly strengthen local capability and capacity. UniGib will provide future support by providing monitoring assistance by Masters students from both its Marine and Environmental Science programmes. Monitoring programmes developed during and after this project will be included and enshrined into Gibraltar's Marine monitoring programme and rolled out to existing citizen science projects between DESCCH, local SCUBA diving clubs and associated NGOs. Science communication outputs will be developed for further community and visitor buy-in and engagement by visiting recreating divers.

Data from the project will feed to our ongoing Darwin Plus Local project on developing a biodiversity portal (DPL00109: Gibraltar Biodiversity Gateway).

(Optional) Please upload any additional and supporting materials or files (such as maps of project sites, etc) below. Maximum of 5 sides of A4, and is combined as a single PDF:

Section 5 - Project Outcome(s)

Q8. Project Outcome(s) (Guidance section 1.2)

Successful Darwin Plus Local projects must demonstrate measurable outcomes in at least one of the themes of Darwin Plus with a clear focus on biodiversity and the natural environment, either by the end of the project or soon after through a credible plan.

Please note: Any proposals including research or monitoring are required to demonstrate a clear link to tangible outcomes for conservation of biodiversity and the natural environment. Please explain how any new research will be applied to drive environmental outcomes on the ground.

Please confirm that your project has a clear focus on biodiversity and the natural environment.

Checked	Biodiversity: improving and conserving biodiversity, and slowing or reversing biodiversity loss and degradation;
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Please tick which additional theme(s) of Darwin Plus your project contributes to (if relevant):

Unchecked	Climate change: responding to, mitigating and adapting to climate change and its effects on the natural environment and local communities;
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Checked	Environmental quality: improving the condition and protection of the natural environment
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Checked	Capability and capacity building: enhancing the capacity within OTs, including through community engagement and awareness, to support the environment in the short- and long-term.
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Please justify your selection. Please use quantitative information where possible here.

This scaling-up study builds on a previous successfully implemented feasibility study and will conserve local biodiversity by active restoration of an endemic species; and as a habitat forming species will improve the condition of the natural environment. Furthermore, will increase local capability and capacity by providing in-territory partners with the necessary knowledge, data and restoration skills in terms of more personnel trained to maximise the chance of future marine environment restoration success. Should this project be successful in its scale-up efforts, our intention would be to apply for a Darwin Plus Main Award that would contribute to all four themes.

Section 6 - Workplan

Q9. Workplan (Guidance section 2.2)

Please provide anticipated dates for the start and end of your planned project here. Please use the Darwin Plus Local Project Workplan (available at: <https://darwinplus.org.uk/how-to-apply/local-applications/>) to provide a list of the individual activities you have planned for this project, a brief description of what each activity entails, and the months in which the activities will be carried out. If the project involves only one activity (e.g. a purchase), please still provide project start and end dates (noting estimated times for procurement). Please note that your project must start after 1 April 2025 and be completed by 31 March 2026.

Start date:	End date:	Duration (e.g. 3 months):
01 April 2025	31 March 2026	12 months

Please upload the completed Darwin Plus Local Project Workplan with your proposed project activities here

 [DPLR5_1086 Coral Implementation-timetable](#)

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Section 7 - Costs

Q10. Costs (Guidance section 2.2 and please read the Finance Guidance)

Please provide a breakdown of costs to be funded through Darwin Plus Local (in GBP).

Are you seeking any matched funding for this project? (Please note that this is optional and there is no requirement to seek matched funding for Darwin Plus Local projects).

☒ Yes

How much matched funding are you seeking and where from?

Pro-bono time from in-territory partners: DESCCH –£3,000. As per their Letter of Support, DESCCH will support the project with a combination of staff time, including the approval and issuing of relevant permits to access the study areas, as well as logistical support through their Environmental Protection Unit and other marine assets as required.

Budget line	Explanation	Cost in GBP
Staff costs:	University of Gibraltar staff time involved in the project	
Consultancy costs:	n/a	
Overhead costs:	Calculated as 30% of staff costs	
Travel & subsistence costs:	Transport and accommodation for team members to attend a project workshop and site visits	
Operating costs:	Local workshops, fieldwork costs and lab analysis	

Capital equipment:	Aquaria set-up for Coral nursery and Underwater cameras and dive rig and lights	
Other Costs	Insurance for fieldwork, honoraria for advisors	
Total:		

This section provides more information on the budget to help evaluators understand how you will use the funds you are requesting. You do not need to list all costs, but please list and detail costs of more than £1,000 per item below, under the appropriate budget line.

Details of staff costs over £1,000 (if relevant)

Project Officer (new recruit). Responsible to the Project Lead. On-the-ground support for daily project administration. Support for marine surveys, coral transplantation and monitoring, data collection, evidence reporting and outreach activities. Project dedication: 140 days FTE [REDACTED] for 7 months.

Project Lead (Awantha Dissanayake). Project oversight and management, ensuring effective coordination and implementation. Staff time costed. [REDACTED]

Following clarification from Darwin, staff time for the Project Lead is included as honorarium (see Annex)

Details of overhead costs over £1,000 (if relevant):

Calculated as 30% of staff costs.

Details of travel and subsistence costs over £1,000 (if relevant):

Transport and accommodation for University of Gibraltar team to attend a project workshop and site visits to Spanish researchers.

Details of operating costs over £1,000 (if relevant):

Adhesives for coral transplantation; [REDACTED]

Laboratory analysis for biotic factors (stable isotopes); [REDACTED]

Cost of dives (includes gear, boat, fuel etc) priced at £50 per dive, 28 dives. [REDACTED]

Local workshops; [REDACTED]

Details of capital equipment costs over £1,000 (if relevant):

Aquaria set-up for growing coral assessing thermal tolerance [REDACTED]

Underwater cameras and dive rig and lights; [REDACTED]

Details of consultancy costs over £1,000 (if relevant):

n/a

Details of other costs over £1,000 (if relevant)

Small honoraria for advisors; [REDACTED]

Insurance for fieldwork; [REDACTED]

If your project budget was prepared in another currency and converted to GBP, please provide the exchange rate, its source, and the date it was accessed:

Other currency:	Exchange rate:	Source of this exchange rate:	Date exchange rate accessed:
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No Response

No Response

No Response

No Response

Darwin Plus Local has been created to build capacity and contribute to local economies in-territory (Guidance section 2.1.1 and section 1.8.4 of the Finance Guidance).

In-territory spend is defined in Darwin Plus Local as including funding spent on:

- Equipment purchased in-territory;
- Equipment that cannot be acquired in-territory and is therefore purchased abroad, but will remain and be used in-territory beyond the life of the proposed Darwin Plus Local project;
- Training or skills that cannot be acquired in-territory and are therefore purchased abroad, but will be used in-territory beyond the life of the proposed Darwin Plus Local project;
- Time for consultants or staff based in-territory.

In-territory spend does not include:

- Time for consultants or staff who are based abroad, even if they travel to the OT to undertake the work;
- Shipping and import costs for equipment purchased abroad;
- Travel and subsistence costs where they incur spend outside the OT.

What % of the total will be spent
in-territory? 92

If less than 80% of the total project spend is to be spent in-territory, please explain why.

No Response

Section 8 - Local and National Priorities

Q11. Local and national priorities

Please explain how this project aligns with local and national priorities? You may wish to consider the project in the context of national environmental laws, objectives, strategies, territory specific agreements, action plans or policies.

This restoration study contributes towards:

Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols (Barcelona Convention).

Marine Strategy Framework Directive (MSFD): Transposed into local law under the Marine Strategy Regulations 2011, the MSFD aims to ensure sustainable use of marine waters and achieve Good Environmental Status (GES) of European seas by protecting the marine environment, preventing its deterioration and restoring it where practical, while using marine resources sustainably.

Water Framework Directive (WFD): The WFD aims to achieve Good Ecological and Good Chemical Status. Restoration of coral populations in BGTW would serve as proxies of local water quality as they are indicators of ecosystem health.

Gibraltar's Climate Change Bill 2019 & Gibraltar Climate Change Strategy: Require policies, programmes and projects to contribute to the mitigation of, and adaption to, climate change. Coral restoration extends beyond conservation of important marine ecosystems and may help mitigate climate change via increased carbon

sequestration.

Convention on Biological Diversity (CBD) – Article 8(f): rehabilitate and restore degraded ecosystems and promote the recovery of threatened species through the development and implementation of plans and management strategies.

Will the project...

Take place on Government owned land or water?

☒ Yes

Involve biocontrol, invasive alien species control or eradication?

☒ Yes

Require permit(s) from Government departments for completion of activities?

☒ Yes

If you have answered yes to any of the questions above, please attach evidence that you have Government support for this project i.e. a Letter of Support. Applications which indicate that they do not take place on Government land or water, but which propose work that appears to the reviewers would be difficult/impossible to carry out without working on government land or waters may be ineligible if no Letter of Support is provided.

 [DPLR5 1086 Coral LoS DESCCH](#)
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Section 9 - Project Risks

Q12. Project Risks

Please demonstrate your consideration of any risks involved in this project and how you intend to manage them. Please note the importance of health and safety and environmental risk assessment in the design of your project. If there is any possibility that your project may have negative impacts on the environment or human health, it is important that you provide a comprehensive analysis of potential environmental and human health risks, and the prevention measures you will take to ensure the work does not cause harm.

Depending on your project, you may wish to consider:

- Biosecurity risks – particularly for projects involving external equipment.
- Safeguarding risks – particularly for projects involving vulnerable groups such as children, older people or people with disabilities.
For example, you should consider the ratio of vulnerable people or children to adults, ensuring there are appropriate background checks of all staff, and informing vulnerable groups and children of their right to safety and protection.

Risk	Mitigation
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Severe weather	The Gibraltar marine environment can be subject to adverse weather and marine conditions. Conditions will always be checked in advance of fieldwork and plans will be adapted if necessary to avoid any potential health and safety hazards.
Project diving team	Only suitably qualified and experienced personnel as per diving and sampling under DESCCH, UniGib and commercial diving procedures.
Data storage issues	Survey data and photos will be secured in password-protected servers at UniGib. Daily backups will be scheduled.

Do you require more fields?

☒ Yes

Risk	Mitigation
Low community uptake	We will showcase evidence of progress and the Science Communication outputs distributed through various platforms and channels will aid uptake. Workshops will be an opportunity to incorporate NGOs and community views on progress and input to future restoration efforts.
No Response	No Response
No Response	No Response
No Response	No Response
No Response	No Response

Section 10 - Terms & Conditions

Q13. Terms and conditions (Guidance section 3.10)

By applying for Darwin Plus Local you are adhering in full to the grant Terms and Conditions in full (available at: <https://darwinplus.org.uk/how-to-apply/local-applications/> and as referenced in the Guidance at section 3.10). For information, the Terms and Conditions include requirements for all applicants to (amongst other requirements as per the full Terms and Conditions):

- Uphold a zero tolerance for inaction approach to tackling sexual exploitation, abuse, and harassment.
- Where appropriate, make all reasonable and adequate efforts to address gender inequality and other power imbalances.
- Notify all cases of fraud and theft (whether proven or suspected) relating to the project to the Grant Administrator as soon as they identified.

Please indicate you have read, and understood, and will adhere to the Terms and Conditions.

Checked

Supporting documents list (please have these ready to attach with application)

- Cover Letter of no more than two A4 pages. (Guidance section: 4.2 has information on what this cover letter should include).
- If the project takes place on public land or water, is addressing invasive alien species or includes activities requiring a permit, a Letter of support from OT Government.
- Project Workplan in the template provided for Darwin Plus Local (available at: <https://darwinplus.org.uk/how-to-apply/local-applications/>).
- Map and additional information (optional) maximum five additional pages.

If your application is successful

-
If your project application is successful, the Fund Administrator (NIRAS) will ask you to provide some financial evidence for due diligence checks before you receive your project grant. (Please see section 3.3 of the Darwin Plus Local Finance Guidance). Please be ready to provide this evidence promptly.

- **Financial evidence for organisations:** Year-end financial statements, the latest management accounts or audited accounts (if you have these).
- **Financial evidence for individuals:** Proof of identity such as a passport, ID card or driving licence and solvency (such as bank statements) and a police check.

Section 11 - Certification

Certification

I certify that, to the best of my knowledge and belief, the statements made in this application are true and the information provided is correct.

Checked

I have the authority to submit an application on behalf of my organisation.

Checked

Name:	Dr Awantha Dissanayake
Position in the organisation: (if applicable)	Head of Marine and Environmental Science, University of Gibraltar, Project Lead
Signature (please upload e-signature)	 AD signature  25/11/2024  11:41:53  jpg 6.48 KB
Date:	25 November 2024

Section 12 - Submission Checklist

Checklist for submission

Check

I have read the Guidance documents, including the “Darwin Plus Local Guidance” and the “Darwin Plus Local Finance Guidance”.	Checked
If my proposed project takes place on public lands or water or is addressing alien invasive species, I have uploaded a Letter of Support from Government.	Checked
I have uploaded a cover letter that details the information requested in the guidance (Guidance section 4.2 has information on what this cover letter should include).	Checked
I have read, and can meet, the current Terms and Conditions for this fund (found at: https://darwinplus.org.uk/apply/local-applications/) for this fund.	Checked
I have provided actual start and end dates for my project that fit this Round.	Checked
I have provided my summary budget based on UK government financial years i.e. 1 April – 31 March and in GBP in the application form.	Checked
I have uploaded my project workplan using the specific template provided (available at: https://darwinplus.org.uk/apply/local-applications/).	Checked
I have uploaded all supplementary documents if I have any.	Checked
(If copying and pasting into Flexi-Grant) I have checked that all my responses have been successfully copied into the online application form.	Checked
The application has been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable).	Checked
I have checked the Darwin Plus website immediately prior to submission to ensure there are no late updates.	Checked
I have read and understood the Privacy Notice on the Darwin Plus website.	Checked

We would like to keep in touch!

Please check this box if you would be happy for the lead applicant (Flexi-Grant Account Holder) and project leader (if different) to be added to our mailing list. Through our mailing list we share updates on upcoming and current application rounds under Darwin Plus. We also provide occasional updates on other UK Government activities related to biodiversity conservation and share project news. You are free to unsubscribe at any time.

Checked

Data protection and use of personal data

Information supplied in the application form, including personal data, will be used by Defra as set out in the **Privacy Notice**, available from the [Forms and Guidance Portal](#).

This Privacy Notice must be provided to all individuals whose personal data is supplied in the application form. Some information may be used when publicising Darwin Plus including project details (usually title, lead partner, project leader, location, and total grant value).