Applicant: **Visser, Chrisna** Organisation: **Ascension Island Government** Funding Sought: Funding Awarded: **£0.00**

DPLR3\1068

BELEAF - Biocontrol: Evaluating Leaf-folding Evippe Activity on Flora

Mexican thorn is the most damaging invasive species on Ascension. Following outcomes from DPLUS134, the project will take an integrated approach to controlling thorn on Ascension by releasing the biocontrol agent, the Evippe sp. #1 moth to control and prevent the spread and further establishment of this invasive tree on Ascension Island. Building on successes, the project aims to (1) establish a viable population on island; (2) monitor its establishment, and (3) ensure long-term contraction of its range and restoration.

CONTACT DETAILS

Title	Miss
Name	Chrisna
Surname	Visser
Organisation	Ascension Island Government
Tel (Work)	
Email (Work)	
Address	

DPLR3\1068

BELEAF - Biocontrol: Evaluating Leaf-folding Evippe Activity on Flora

Section 1 - Project Title & Contact Details

Q1. Project Title

BELEAF - Biocontrol: Evaluating Leaf-folding Evippe Activity on Flora

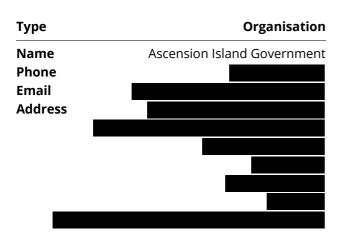
Q2. Please select whether you are applying as an organisation or as an individual (Guidance section 3 and Guidance Glossary)

Organisation

CONTACT DETAILS

Title	Miss
Name	Chrisna
Surname	Visser
Organisation	Ascension Island Government
Tel (Work)	
Email (Work)	
Address	

GMS ORGANISATION



Section 2 - Overseas Territory(ies)

Q3. Overseas Territory (Guidance section 1.3):

Which UK Overseas Territory(ies) will your project be working in? Please note that in case of a nonpermanent resident population you need to demonstrate a clear, meaningful, long-term link to the territory.

☑ St Helena, Ascension and Tristan da Cunha*

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

Ascension Island

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

Q4. Project partners (Guidance section 3.2)

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

Chrisna Visser
Ascension Island Government Conservation and Fisheries Directorate (AIGCFD)
⊙ Yes
N/A
Ascension Island Government Conservation and Fisheries Directorate (AIGCFD) will take responsibility for overall project management, financial management, delivery of the project, monitoring, and evaluation.
Checked
-

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

- Cover letter R3-DPlus Local BELEAF Biocontr ol Evaluating Leaf-folding Evippe Activity on Flora
- **iii** 29/11/2023
- ① 14:06:23
- pdf 241.58 KB

Section 4 - Project Summary & Description

Q5. 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.

Mexican thorn is the most damaging invasive species on Ascension. Following outcomes from DPLUS134, the project will take an integrated approach to controlling thorn on Ascension by releasing the biocontrol agent, the Evippe sp. #1 moth to control and prevent the spread and further establishment of this invasive tree on Ascension Island. Building on successes, the project aims to (1) establish a viable population on island; (2) monitor its establishment, and (3) ensure long-term contraction of its range and restoration.

Q6a. 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 objectives:

This project aims to control the spread of highly invasive Mexican thorn by releasing the biocontrol agent, the Evippe sp. #1 moth on Ascension Island.

Current problem:

Mexican thorn is the most damaging invasive species on Ascension which threatens important strongholds for Ascension spurge, seabirds and green turtle habitats. Climate change, including increased rainfall during recent years, has increased the growth and spread of Mexican thorn. This contributed to increased habitats of unwanted species including rats and mice, as well as threatening island infrastructure. Without adequate control measures, this problem will continue to escalate.

Mexican thorn is a tough plant and currently, multiple interventions are sometimes needed to kill a single tree. Mechanical and chemical control is physically demanding, labour intensive, slow, and therefore costly. Releasing a biocontrol agent will ensure that the problem species are kept in check with minimal further effort. Following outcomes from DPLUS134, integrating chemical, mechanical, and biological control methods will deliver the best results for controlling Mexican thorn in the long term. How we will address the problem:

DPLUS134 with support from AIG is releasing the Evippe moth, a known biological control agent specifically tested and cultured to be a targeted and effective predator of Mexican thorn. Research from Australia has shown that Evippe can cause over 90% defoliation within 12 months of its release. Therefore, Mexican thorn in Australia rarely produce much foliage and repeated defoliation has contributed to very low seed production and growth rates observed since 2000. If this can be repeated on Ascension, long-term control of Mexican thorn may be possible with less costly and time-consuming methods to protect infrastructure and native plants and animals.

How risks have been considered:

A comprehensive Risk Assessment was conducted by CABI and AIGCFD which was independently reviewed and recommended by Defra. Extensive host range testing was done to ensure that Evippe is targeted to Mexican thorn and will not threaten endemic plants or plants of value to the local community including those grown by hydroponics. Evippe has already been tested in Australia and South Africa and these tests have confirmed that it only affects Mexican thorn and some very closely related species. Experiences from Australia indicate that Evippe will not necessarily result in the death of plants, but the frequent defoliation will weaken plants and make them less able to regrow if they are cut and sprayed. Mexican thorn contributes to the loss of wildlife habitats and harbours pests such as rats and ants. Very few endemic or native species occur in areas where Mexican thorn is present and a reduction in its cover will have many benefits and few negative consequences for wildlife.

Measuring success:

Our targets:

- 1) Establishment (Once a month after release; Once a year thereafter)
- Document larval activity (defoliation and presence of leaf-ties)
- Determine presence and density of moths through photographs.
- Assess presence of caterpillars and pupae by opening leaf ties.
- Assess for presence of adult moths.

2) Tree health and cover (Once a month; Every six months)

- Fixed-point photographs of individual branches and stands.
- Drone photography

3) Efficacy – moth emergence (Once a month during initial release; Once every six months thereafter)

- Small releases inside mesh sleeves along branches.
- Sticky traps to assess emergence and dispersal.
- Assess leaf-mining and tying.
- 4) Environmental impact (Once before initial release; Every six months)
- Satellite imagery or drone photography to establish a baseline prior to releases.
- Assess the potential increase of cover by other non-native woody plant species.
- Before and after photos of release sites and surrounding areas.

Q6b. 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?

The project will benefit the protected species and habitats on Ascension that are threatened by Mexican thorn. These include the endemic Ascension frigatebird, the endangered green turtle, and the critically endangered Ascension spurge.

The Ascension Island Community will benefit as the reduced spread of Mexican thorn helps to safeguard the landscape character of the island. They have the opportunity to be involved in decision making about the future management of their island through the evidence-based participatory approach adopted by this project.

AIGCFD will be empowered as a result of this project by the development of more efficient and effective means of tackling Mexican thorn. It will provide hope to conservation professionals that non-native species can be managed and reassurance that they are employing global best practice techniques.

Policy makers on Ascension will benefit from the opportunity to work with international experts and evaluate the results of treatment trials to arrive at locally-appropriate solutions.

Other organisations controlling Mexican thorn on Ascension will benefit from training and advice so that they use resources more effectively and in a coordinated way to deliver greater impact and better value for money.

(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:

公	DPlus-R3-Local - Proposed budget supporting do	쑈	DPlus-R3-Local supporting document BELEAF -
	cument BELEAF - Biocontrol Evaluating Leaf-fold		Biocontrol Evaluating Leaf-folding Evippe Activity
	ing Evippe Activity on Flora		<u>on Flora</u>
⊟	29/11/2023	▦	29/11/2023
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ß	pdf 143.98 KB	ß	pdf 679.87 KB

Section 5 - Project Outcome(s)

Q7. Project Outcome(s) (Guidance section 1.2)

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

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

Checked	Biodiversity: improving and conserving biodiversity, and slowing or reversing biodiversity loss and degradation;
Unchecked	Climate change: responding to, mitigating and adapting to climate change and its effects on the natural environment and local communities;
Checked	Environmental quality: improving the condition and protection of the natural environment
Unchecked	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.

Please justify your selection. Please use quantitative information where possible here.

Mexican thorn is identified as a major threat in Ascension's National Biodiversity Strategy and Action Plan (BSAP) and is identified as a significant threat to Ascension populations of the endangered green turtles and the endemic and critically endangered Ascension Island spurge. The BSAP seeks to identify long-term, sustainable means of controlling high-priority invasive non-natives including Mexican thorn, where they are available. The project will address Ascension's and the UK Government's commitments under Article 8 of the Convention on Biological Diversity to control alien species that threaten ecosystems, habitats, or species.

Section 6 - Workplan

Q8. Workplan (Guidance section 2.2)

<u>Please provide anticipated dates for the start and end of your planned project here.</u> Please use the <u>Darwin</u> <u>Plus Local Project Workplan</u> (available at: <u>Darwin Plus website</u>) 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). <u>Please note that your</u> <u>project must start after 1 April 2024 and be completed by 31 March 2025.</u>

Start date:	End date:	Duration (e.g. 3 months):
01 April 2024	31 March 2025	12 months

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

- <u>A</u> <u>DPlus Local Workplan Template BELEAF Bi</u> <u>ocontrol Evaluating Leaf-folding Evippe Activity o</u> <u>n Flora</u>

 <u>29/11/2023</u>

 <u>14:30:26</u>

 <u>pdf 228.86 KB</u>

Section 7 - Costs

Q9. 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?

• Yes

How much matched funding are you seeking and where from?

AIG in-kind matched contribution of Staff time:

Director of Cor	nservation -		
Park Warden -			
Assistant Park	Warden -		
Conservation F	ieldworker	-	

Total:

Budget line	Explanation	Cost in GBP
Staff costs:	Salary of Chrisna Visser Personal effects freight Flights (ASI – St Helena – SA)	
Consultancy costs:	Support from CABI	
Overhead costs:	AIG Overheads	
Travel & subsistence costs:	None	£0.00
Operating costs:	None	£0.00
Capital equipment:	Plant propagation equipment Stationary (Consumables (Cons	
Other Costs	None	£0.00
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)

Chrisna Visser, the Mexican Thorn Control Project Officer, for 1 year to implement the Integrated Control Plan developed from DPLUS134 including the incorporation of the Evippe moth on Ascension Island. Tasks include: managing and maintaining the Evippe culture facility; releasing Evippe culture on Ascension; monitoring the establishment and presence of Evippe; assisting with the delivery activities within AIGCFD; drone flying for the AIGCFD; writing outreach material; assisting with activities that will benefit the community (e.g. assist AIG Operations Department with chainsaw operations where required, etc.)

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

AIG Overheads (vehicles, building cost, etc.)

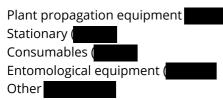
Details of travel and subsistence costs over £1,000 (if relevant):

N/A

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

N/A

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



These materials will assist with maintaining the Evippe population and thereby ensure a 'clean' culture. The use of chainsaw and herbicides will help prevent regrowth of treated trees. Community engagement will secure the project's longevity on the island and will encourage support and participation in AIGCFD activities.

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

Continued support from CABI will ensure the successful establishment and maintenance of the Evippe culture for the duration of the project.

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

N/A

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:
No Response	No Response	No Response	No Response

Darwin Plus Local has been created to build capacity and contribute to local economies in-territory.

What % of the total will be spent 100 in the OTs?

If less than 80% of the total project spend is to be spent within the OT(s), please explain why.

No Response

Section 8 - Local and National Priorities

Q10. 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.

Control of Mexican thorn is a high priority in the AIG National Biodiversity Strategy and Action Plan and Biosecurity Strategy. The project will address Ascension's and the UK Government's commitments under Article 8 of the Convention on Biological Diversity to control alien species that threaten ecosystems, habitats, or species. Mexican thorn is a significant threat to the nesting beaches of green turtles, breeding seabirds, and the critically endangered Ascension Island spurge. It forms impenetrable stands over large parts of the island with its range continuing to expand. Current efforts are resource-intensive and limited to a small number of high-priority sites. This puts native species and habitats at risk and even the current level of control is not sustainable within existing AIG capacity. Past releases of biocontrol agents have slowed the spread of Mexican thorn, but not reduced cover.

The project addresses the highest-impact threats in the Ascension Mexican thorn Species Action Plan:

- 1. Harbouring non-native pests.
- 2. Competition with native or endemic plants and invertebrates.
- 3. Rapid spread alters landscape characteristics.
- 4. Obscuring the volcanic nature of the island.
- 5. Increased difficulty in maintaining infrastructure.
- 6. Significant costs involved with removal and control efforts.
- 7. Increased fire risk

Will the project take place on Government owned land or water or involve biocontrol, invasive alien species control or eradication?

• Yes

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.

- AIG letter of support R3-DPlus Local BELEAF -Biocontrol Evaluating Leaf-folding Evippe Activity on Flora
- ① 14:38:57
- pdf 229.16 KB

Section 9 - Project Risks

Q11. 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.

Risk

Mitigation

Health risks associated with working with herbicides, tools, and equipment.	Ensure staff members and volunteers wear appropriate PPE. Demonstrate how to use tools and equipment appropriately. Herbicide should be stored safely and only a registered Herbicide Applicator should be allowed to apply it.
Evippe sp. #1 cultivation and release on Ascension fails.	Construct a proper shelter and cultivation facility on Ascension to minimise environmental impact. Continuous support from CABI is required, especially in the implementation stage.
AIG and other organisations not adopting the recommended control methods in their operations.	Engage with AIG and other organisations on a regular basis and welcome their input while developing these new and improved methods to secure shared ownership of solutions.

Do you require more fields?

• Yes

Risk	Mitigation
Biosecurity Risk: Shipping in external equipment	Biosecurity Regulations (Biosecurity Ordinance, 2020) are in place to reduce the introduction of species threatening native species and people's quality of life. Inspections carried out by AIG to monitor compliance and ensure import health standards.
No Response	No Response

Section 10 - Terms & Conditions

Q12. 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: <u>Darwin Plus website</u> 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 or is addressing invasive alien species, a Letter of support from OT Government.
- Project Workplan in the template provided for Darwin Plus Local (available at: Darwin Plus website).
- 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:	Chrisna Visser
Position in the organisation: (if applicable)	Mexican Thorn Control Project Officer
Signature (please upload e- signature)	 <u>A</u> <u>Chrisna Visser signature</u> <u>iii</u> 29/11/2023 <u>iiii</u> 14:44:00 <u>iiiiiiiiiiiiiiiiiiii</u>
Date:	29 November 2023

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
l 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.	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.	Checked
l have uploaded all supplementary documents if l 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
l 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.

Unchecked

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 <u>Forms and Guidance Portal</u>.

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).

Darwin Plus Local

Provide a **Workplan** that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project. Round 3 is for a **maximum of 12 months** with activities starting from 1 April 2024. All activities must be completed by 31 March 2025.

Please add/remove columns to reflect the length of your project. For each activity (add/remove rows as appropriate) indicate the number of months it will last, and shade only the months in which an activity will be carried out. The workplan can span multiple pages if necessary.

		No. of					UK Financial Year 2024/25								
Activity #	Description (max 25 words)	months	Calendar Year 2024										Calendar Year 2025		
			Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
1.	Order equipment	3 months													
2.	Furnish and clean out <i>Evippe</i> culture facility.	2 days													
3.	 Documentation of larval activity (defoliation and presence of leaf-ties) Photographs to determine the presence and density of moths. Open leaf-ties to check if caterpillars and pupae are present. 	release Once a year after the													
	Observations for the presence of adult moths.	release													
4.	Fixed-point photography of individual branches and tree stands.	Once a month													
5.	Small releases made inside mesh sleeves along Mexican thorn branches.	Once a month during i initial releases													

Activity #		No. of	UK Financial Year 2024/25												
	Description (max 25 words)	months			Calendar Year 2025										
			Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
6.	Sticky traps to assess emergence and dispersal. (Alternative no-kill trap to be used – moth bucket trap)	Once a month after initial releases													
7.	Assess leaf-mining and tying.	Every 6 months													
8.	Use satellite imagery or drones to establish a baseline prior to releases.	Once before initial releases													
9.	Drone imagery for monitoring purposes.	Every 6 months													
10.	Assessment of potentially increasing cover by other non-native woody plant species.	Every 6 months													
11.	Before and after photos of release sites and surrounding areas.	Once before initial releases													
		Every 6 months													
12.	Mexican thorn propagation to sustain <i>Evippe</i> population in culture facility.	Every week													
13.	Social media (Islander articles; Facebook posts).	Once a month													
14.	Continued Mexican thorn clearance in Nature Reserves.	Weekly													

Activity #		No. of	. of UK Financial Year 2024/25												
	Description (max 25 words)	months	Calendar Year 2024										Calendar Year 2025		
			Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
15.	Assist with clearance activities that will benefit the community (e.g. assist the AIG Operations Department with chainsaw operations where required, etc.)	Once a month													
16.	Workshops on using the Mexican thorn Integrated Control Plan, and M&E Plan.	Twice a year													
17.	Public meeting to update the community on the project's outcome.	Before the completion of the project													
18.	Completion of Darwin Final Report	After completion of the project													
														<u> </u>	