Applicant: **Martinou, kelly** Organisation: **Enalia Physis** Funding Sought: **£32,000.00** 

# DPR9F\1014

Increasing awareness amongst people of the threat posed by invasive non-native species (INNS) is critical to inform decision-making. Through this fellowship we will increase local knowledge within the SBAs, Cyprus and beyond by providing accessible, user-friendly on-line resources through an on-line database alongside citizenscience to study native species-INNS interactions.

# Section 1 - Contact Details

### **PRIMARY APPLICANT DETAILS**



### **GMS ORGANISATION**



# Section 2 - Title, Dates & Budget Summary

## Q3. Name and official address of proposed Darwin Plus Fellow

### Include email details where available.

Name	Jakovos Demetriou
Address	
Email Address	

### Q4. Summary of proposed Fellowship i.e. Outcome

Increasing awareness amongst people of the threat posed by invasive non-native species (INNS) is critical to inform decision-making. Through this fellowship we will increase local knowledge within the SBAs, Cyprus and beyond by providing accessible, user-friendly on-line resources through an on-line database alongside citizen-science to study native species-INNS interactions.

### Q5. Project dates

Start date:	End date:	Duration (e.g. 1 year, 2
01 July 2021	30 June 2023	<b>months):</b> 2 years

## Q6. Budget summary

	2021/2022	2022/2023	2023/24	Total
Darwin funding	13,250.00	14,640	4,110.00	£
request (Apr - Mar)				32,000.00

# **Section 3 - Principals**

### Q7. UKOT Involved

Q7a. Please state which UKOT (s) will be involved with the Fellowship? If you are applying from a UKOT which is not ODA eligible, you will need to apply via the Darwin Initiative.

Western Sovereign Base Areas Cyprus

### Q7b. Have you included a letter of support from the relevant OT Government(s)?

• Yes

### Please provide a combined PDF of all letters of support

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## Q8. Principals in the Fellowship

Please give the details of the individuals from the applicant and host organisations (and other institutions if relevant) who would be directly involved in supervising/working with the Darwin Plus Fellow.

Project Leader	Other Expert	Other Expert	Other Expert
Martinou	Roy (co-lead)	No Response	No Response
Kelly	Helen	No Response	No Response
Head Entomologist	Individual Merit Scientist	No Response	No Response
Enalia Physis & Joint Services Health Unit, BFC	UK Centre for Ecology & Hydrology	No Response	No Response
	Martinou Kelly Head Entomologist Enalia Physis & Joint Services Health Unit,	MartinouRoy (co-lead)KellyHelenHead EntomologistIndividual Merit ScientistEnalia Physis & Joint Services Health Unit,UK Centre for Ecology &	MartinouRoy (co-lead)No ResponseKellyHelenNo ResponseHead EntomologistIndividual Merit ScientistNo ResponseEnalia Physis & Joint Services Health Unit,UK Centre for Ecology &No Response

### Do you require more fields?

No

Please provide a one page CV for each of these named individuals, including the Fellow named at Q3, uploaded as one PDF.

- ▲ <u>ALL CVs</u>
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# Section 4 - Aims, Activities & Achivements

# Q9. Describe briefly the aims, activities and achievements of the proposed Fellow's employing organisation.

### Large institutions please note this should describe your unit or department.

Mr Jakovos Demetriou will be employed through Enalia Physis Environmental Research Centre. Enalia Physis is a Cyprus-based non-profit organization established in 2009. It conducts and promotes environmental research and enhances education and ecological awareness to the general public. Joint Services Health Unit (JSHU) is a military unit established in 1968 with environmental health, entomological and pest control expertise that runs integrated pest and vector management programme in the Sovereign Base Areas of Cyprus and overseas upon request. The unit has military and civilian experts in environmental health, medical entomology, vector ecology and pest management. JSHU will greatly benefit from the proposed fellowship as it is seen as a priority to raise awareness.

The UK Centre for Ecology and Hydrology is the UK's Centre of Excellence for integrated research in terrestrial and freshwater ecosystems. UKCEH science helps the UK meet strategic research needs underpinning their ability to undertake world-class environmental science.

# Q10. Describe briefly the proposed Fellow's current role within their organisation and what relevance this has to environmental management and/or climate change in the OTs.

Mr Jakovos Demetriou has been working on invasive non-native species with Dr Martinou and Professor Roy, as a member of Joint Services Health Unit (JSHU) since last year contributing to the work of the ongoing Darwin Plus DPLUS088. He has been collecting information through the literature on monitoring of INNS. He is also currently based for his MSc thesis with Dr Martinou at the JSHU and will finish in June 2021. Mr Jakovos Demetriou is compiling information on the evidence of impacts of INNS for a major global database that will contribute to the IPBES Thematic Assessment of INNS and their control. Mr Jakovos' fellowship will increase public accessibility of the information in the Cyprus Invasive Alien Species database that was developed through DPLUS056 (www.ris-ky.info). INNS together with climate change and land use change are one of the major drivers of biodiversity change and one of the main threats for biodiversity but also public health at the Akrotiri Peninsula, SBAs. He will work closely with members of the Akrotiri community and environment officers and staff of the SBAs in order to raise awareness regarding INNS and their impacts including through development of citizen science.

# Section 5 - Outcomes & Objectives

# Q11. Provide a concept note on the Fellowship. This should include:

### Q11a. A clear outline of the aim and objectives of the Fellowship

INNS, climate change, land use change (agricultural intensification), urbanisation, pollution, illegal hunting and forest fires are leading to biodiversity loss and changes to ecosystems across Cyprus including the Sovereign Base Areas. Previous Darwin Plus projects (www.ris-ky.info) greatly contributed towards addressing these drivers of change and identified the need for the active involvement of stakeholders and the general public when tackling these problems. The proposed fellowship will complement the programmes that have been established with Darwin Plus funding (and the Stage 2 submission DPR9S2\1011) and increase our understanding of the impacts of invasive non-native invertebrates in a protected area through the involvement of citizen-scientists who can be stewards of biodiversity within the protected wetland of Akrotiri.

Research undertaken through the fellowship will:

• Raise awareness on INNS by initiating and promoting a citizen-science recording scheme for invasive non-native invertebrates

• Identify knowledge gaps regarding the impacts of non-native invertebrates on the island of Cyprus

Review the literature and other sources, including grey literature and social media, to update and create a public-facing interface for the Cyprus Invasive Alien Species database developed through DarwinPlus056.
Create information sources to raise awareness and develop alert/rapid response schemes for invasive

non-native insects likely to arrive and establish at SBAs (priority lists derived through DPLUS088) that have impacts on biodiversity, economy and human health such as Halyomorpha halys, Vespa velutina, Aedes

albopictus and Harmonia axyridis

• Create distribution maps for 10 invasive and non-native species present at the Peninsula

• Explore impacts of alien plants on ecological networks using entomological and citizen-science data for the orders of Hymenoptera and Diptera.

Results will be communicated to relevant stakeholders within SBAs, and also widely across the Republic of Cyprus through public facing dissemination events at the Akrotiri Environmental Education Centre or online if COVID-19 restrictions.

### Q11b. The role of the applicant and/or host organisation, and others where relevant

Mr Jakovos Demetriou will be responsible for undertaking the research under the joint supervision of Dr Martinou and Professor Helen Roy who co-lead the project. The supervisors have strong experience in delivering Darwin Plus projects (Darwin Plus 056 & Darwin Plus 088 & supervision of Research Fellow Joanna Angelidou). They will mentor Mr Demetriou in order for him to develop leadership and management skills and ensure the success of the fellowship. Mr Jakovos Demetriou will based in Cyprus for most of the fellowship with Dr Martinou at Joint Services Health Unit and Enalia Physis but will have regular online meetings (monthly) with Professor Helen Roy.

Mr Demetriou will visit the UKCEH as soon as COVID restrictions allow within his fellowship in order to develop skills in species distribution models alongside reviewing the INNS early warning systems delivered by Professor Roy's team.

Mr Demetriou will develop information resources on INNS to underpin early warning of non-native invertebrates not yet established in Cyprus through promotional materials as well as information for 10 established INNS of interest for the SBAs including distribution maps and an online-user friendly non-native species database. Mr Demetriou will present his work to SBAs authorities and the public. He will monitor and evaluate his success through feedback forms and analysis.

# Q11c. Where appropriate, how the Fellowship will contribute towards environment and/or climate change management in the OTs i.e. what the expected outcome of the Fellowship will be, with regard to the aim of Darwin Plus.

This innovative, collaborative Fellowship contributes to the specified priority issues for Round 9; specifically addressing three priorities 1) invasive non-native species 2) restoration and wise use of wetlands 3) eligible COVID-19 environmental activities. It will report on findings and current status of knowledge related to the impacts of climate change and include this information on the online database.

Invasive non-native species cost billions of dollars worldwide, while wetland ecosystems are part of our natural wealth. Worldwide, wetlands provide services worth trillions of US dollars every year – entirely free of charge – making a vital contribution to human health and well-being. With the global population set to increase to nine billion by 2050, increasing pressure on water resources and the threats posed by climate change, the need to maximise these benefits has never been more urgent. The proposed fellowship will raise awareness regarding invasive non-native invertebrates and provide detailed information on established invasive non-native invertebrates and on species likely to arrive and encourage the active engagement of citizens in collecting this information and engage local citizens to become the stewards of the protected area of Akrotiri. Mr Demetriou will ensure transfer of knowledge with reports from the fellowship made accessible to all OTs including specific guidance, relevant to other regions, on creating invasive alien species database and citizen-science initiatives. Additionally, Mr Demetriou will ensure communication of his work to SBAs and Cypriot authorities, public organisations and other stakeholders through dissemination events at the Akrotiri Environmental Education Centre or online. The co-supervisors will guide Mr Demetriou in publication of high quality and scientific outputs. Ultimately, the Fellowship will help towards better natural resource management guiding stakeholders and environment officers of SBAs on how to apply and communicate invasive non-native species and establish citizen-science networks

# Section 6 - Legacy & Collaboration

# Q12. Legacy

# Provide information on how the Fellow will utilise, promote and disseminate the benefits of the Fellowship on return to his/her UKOT. Will a strategy be developed during the Fellowship to ensure this is achieved?

The project plan includes a strategy to ensure the Fellow will utilise, promote and disseminate the outcomes of the fellowship. The citizen science component of the study will provide an effective way of raising awareness with the Akrotiri community and a priority will be to create resources for the public. The report produced by the Fellow, including guidance, relevant to other regions, on implementing approaches to assess invasive non-native invertebrates will be widely disseminated (through the project's website the Cyprus Invasive Alien Species database and Darwin Newsletters etc). The Fellow will lead dissemination events at Akrotiri Environmental Education Centre to report on his findings and provide the opportunity for feedback from citizens, environmental professionals and wetland managers. A summary of these discussions with key recommendations will be included with the strategy to achieve legacy. All data will be published openly and with appropriate documentation. Throughout the fellowship Mr Demetriou will consider opportunities for knowledge exchange to other UK Overseas Territories and will report on these as key recommendations. Additionally Mr Demetriou guided by his co-supervisors will deliver high quality outputs including peer-reviewed publications., Blog posts and press releases will be published to ensure wide accessibility.

## Q13. Priorities

# How will the Fellowship assist the OT's environmental priorities? Please refer to strategy papers, white papers or other materials as appropriate.

The Akrotiri peninsula, West Sovereign Base Area, Cyprus is currently threatened by land use, climate change and invasive non-native species. The proposed fellowship will increase knowledge regarding non-native invasive species that can have an impact on biodversity human health and the economy. It will also look at how the other drivers of change and their interactions with invasive non-native species by providing an updated database for these non-native species and by conducting species surveys and studying the interactions of invasive non-native species with these drivers. The proposed work is in line with the Akrotiri Peninsula Environmental Management Plan (https://sbaadministration.org/home/docs /eco/20121002\_AKI\_PEN\_MGT\_PLAN.pdf)

which identifies alien invasive species as one of the major threats of the peninsula. The fellowship will also contribute to the scope of the White Paper (2012). The Overseas Territories: security, success and sustainability which set out the UK's commitment to work with the Territories to address the challenges of climate change together. The findings of this project and the methodological approaches could also be applied to other Overseas Territories

# Q14. Collaboration

# What collaboration has there been with the proposed Fellow to date in developing the proposal, and what collaboration is planned for the duration of the Fellowship? Where relevant, describe any consultation or collaboration by the proposed Fellow within his or her own territory.

The fellowship proposal has been collaboratively created by Mr Demetriou, Dr Martinou and Professor Roy who have worked together on a number of projects related to invasive non-native species (INNS) and led an INNS Bioblitz in Akrotiri in 2019 (https://www.cost.eu/news/cost-in-media/first-ever-akrotiri-bioblitz-taking-place-this-month/). Dr Martinou currently supervises Mr Demetriou's MSc study and Mr Demetriou is a

contributing author to the IPBES global assessment that Professor Roy leads. Professor Roy is the leader of DPLUS088: Addressing drivers of ecological change in Lake Akrotiri SBA, Cyprus and has provided insights into priorities linking to this ongoing research.

Throughout the fellowship, Mr Demetriou will engage with diverse stakeholders' from the SBAs and the Republic of Cyprus and collate information regarding invasive alien non-native invertebrates. Mr Demetriou has already established links with various stakeholders and natural historians and organisations including Officers from the Ministry of Education, Ministry of Agriculture and Environment, NGOs and citizens. He will maintain and expand these collaborations.

He will also have the opportunity to collaborate with UKCEH modellers and statisticians throughout his fellowship.

## Q15. Where will the Fellow be based?

### Please be specific with organisational details and dates (where more than one location).

The fellow will be based at Enalia Physis NGO and at the JSHU headquarters in Akrotiri. COVID-19 permitted he will visit UKCEH to receive training on citizen-science approaches and distribution maps using R during the first three months of his first year. If visiting UKCEH is not possible training will run online. The fellowship involves collaboration among experts based at UKCEH, Wallingford, UK, Joint Services Health Unit (British Force Cyprus, Akrotiri Headquarters) and Enalia Physis NGO. Mr Demetriou will focus his studies on the Akrotiri wetland. The first visit to UKCEH will be at the start of the fellowship providing an opportunity for Mr Demetriou to train and work alongside UK experts and additionally to meet other invertebrate specialists n the UK, for example through the Royal Entomological Society. Mr Demetriou will then implement his research programme in Cyprus.

# Section 7 - Programme of Work & Funding

# Q16. Provide a programme of work, including key milestones, through the duration of the Fellowship

Please complete the Excel spreadsheet linked below to describe the intended workplan for your project.

Fellowship Implementation Timetable Template

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.

Once you have completed your implementation timetable please upload it using the file upload tool below

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# Q17. Costs

Using UK Government Financial Years (i.e. April 2021 - March 2022 etc.), please provide details of the

### costs associated with this Fellowship in the appropriate Darwin Plus spreadsheet.

### Darwin Plus Fellowship Budget Template

### Please note, this should not be presented as academic years.

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## Q18. Other Sources of funding: provide details and amounts

Date applied for	Donor Organisation	Amount (include currency)	Comments (including confirmed/unconfirmed)
01 JanuaryJoint Services Health2021Unit			for equipment and transport JSHU resources and cars druing fiedlwork will be used
01 January 2021	No Response	No Response	No Response
No Response	No Response	No Response	No Response
No Response	No Response	No Response	No Response

# **Section 8 - Certification**

# Certification

### On behalf of the

Company

### of

Enalia Physis

### I apply for a grant of

£32,000.00

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the fellowship schedule should this application be successful.

(This form should be signed by an individual authorised by the applicant institution to submit applications

### • I have uploaded CVs for fellowship principals and letters of support.

Checked

Name	Angeliki (Kelly) Martinou
Position in Organisation	Head Entomologist/ Researcher
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Dated	01 February 2021

# Section 9 - Submission Checklist

I have read the Guidance documents, including the "Guidance Notes for Applicants" and Checked "Finance Guidance".

I have read, and can meet, the current Terms and Conditions for this fund. Checked

l have provided actual start and end dates for the Fellowship.	Checked
l have provided a budget based on UK government financial years i.e. 1 April – 31 March and in GBP.	Checked
I have checked that the budget is complete, correctly adds up and have included the correct final total at Q6.	Checked
The application has been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable).	Checked
l have included a 1 page CV for the proposed Fellow and the experts listed in Q8 as one PDF document, or provided an explanation of why not.	Checked
I have included a letter of support from the applicant organisation, training organisation (if different from applicant org) and the relevant OT Government, or provided an explanation of why not.	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 GOV.UK.	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 the Darwin Initiative, Darwin Plus and our sister grant scheme, the IWT Challenge Fund. We also provide occasional updates on other UK Government activities related to biodiversity conservation and share our quarterly project newsletter. You are free to unsubscribe at any time.

Checked

### Data protection and use of personal data

Information supplied in this application form, including personal data, will be used by Defra as set out in the latest copy of the Privacy Notice for Darwin, Darwin Plus and the Illegal Wildlife Trade Challenge Fund available <u>here</u>. This Privacy Notice must be provided to all individuals whose personal data is supplied in the application form. Some information, but not personal data, may be used when publicising the Darwin Initiative including project details (usually title, lead organization, location, and total grant value) on the GOV.UK and other websites.

Information relating to the project or its results may also be released on request, including under the 2004 Environmental Information Regulations and the Freedom of Information Act 2000. However, Defra will not permit any unwarranted breach of confidentiality nor will we act in contravention of our obligations under the General Data Protection Regulation (Regulation (EU) 2016/679).