
DPR11F\1013

Jakovos Demetriou

Ants provide a range of ecosystem services but can also inflict serious socioeconomic and environmental impacts. Throughout this fellowship native and non-native ants will be studied at the protected Akrotiri Peninsula. Thus, increasing our knowledge on the biodiversity, spatiotemporal patterns and impacts of biological invasions through citizen-science and material surveys.

Section 1 - Contact Details

PRIMARY APPLICANT DETAILS

Title Dr
Name Kelly
Surname Martinou
Website (Personal) [REDACTED]
Tel (Mobile) [REDACTED]
Email (Personal) [REDACTED]
Address [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

GMS ORGANISATION

Type	Organisation
Name	Enalia Physis Environmental Research Centre
Phone (Work)	[REDACTED]
Email	[REDACTED]
Address	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

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	[REDACTED]
Email Address	[REDACTED]

Q4. Summary of proposed Fellowship i.e. Outcome

Ants provide a range of ecosystem services but can also inflict serious socioeconomic and environmental impacts. Throughout this fellowship native and non-native ants will be studied at the protected Akrotiri Peninsula. Thus, increasing our knowledge on the biodiversity, spatiotemporal patterns and impacts of biological invasions through citizen-science and material surveys.

Q5. UKOT involved


Q5a. Please state which UKOT(s) will be involved with the Fellowship?


Western SBAs of Akrotiri (Cyprus)


Q5b. Have you included a letter of support from the relevant OT Government(s) and/ or OT-based civil society organisation?

Yes

Please provide a combined PDF of all letters of support

 [Letters of support and cover letter](#)

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Q6. Project dates

Start date:

01 July 2023

End date:

30 June 2025

Duration (e.g. 1 year, 2 months):

2 years

Q7. Budget summary

	2023/24	2024/2025	2025/2026	Total
Darwin funding request (Apr - Mar)	19,700	23,640.00	6,160.00	£ 49,500.00

Please complete the template below which provides the Budget for this application.

[Budget form for projects under £100,000](#)


[Budget form for projects over £100,000](#)


NB: Please state all costs by financial year (1 April to 31 March) and in GBP. Darwin Plus cannot agree any increase in grants once awarded.

Please upload your completed Budget Form Excel spreadsheet using the field below.

 [Demetriou BCF-Budget-under-£100K-MASTER-Apr22](#)

[MP](#)

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Section 3 - Principals

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.

Details	Project Leader	Other Expert	Other Expert	Other Expert
Surname	Martinou	Roy (co-leader)	Salata	Georgiadis
Forename(s)	Angeliki F (Kelly)	Helen	Sebastian	Christos
Post held	Head Entomologist	Individual merit scientist	Assistant professor	Teaching and Research Assistant
Organisation	Joint Services Health Unit (JSHU) & Enalia Physis Environmental Research Centre	UK Centre of Ecology and Hydrology (UK CEH)	Department of Biodiversity and Evolutionary Taxonomy, University of Wrocław, Poland	Department of Biology, Faculty of Zoology and Marine Biology, National and Kapodistrian University of Athens, Greece (NKUA)
Email	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]


Do you require more fields?

Yes


Details	Other Expert	Other Expert	Other Expert
Surname	Sfenthourakis	No Response	No Response
Forename(s)	Spyros	No Response	No Response
Post held	Professor	No Response	No Response
Organisation	Ecology and Biodiversity Laboratory, Department of Biological Sciences, Faculty of Pure and Applied Sciences, University of Cyprus	No Response	No Response
Email	[REDACTED]	No Response	No Response

Please provide a one page CV for each of these named individuals, including the Fellow named at Question 3, uploaded as one PDF.

 [Project Team CV combined](#)

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Section 4 - Aims, Activities & Achievements

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 Demetriou will be employed through Enalia Physis, a Cyprus-based non-profit organization, conducting and promoting environmental research and public education.

Joint Services Health Unit is a military unit with environmental health, entomological and pest control expertise, running integrated pest and vector management programs in terrestrial and freshwater ecosystems.

UKCEH is the UK's Centre for 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.

Department of Biodiversity and Evolutionary Taxonomy is renowned for its extended research on ant systematics, phylogeny and biogeography.

The Faculty of Zoology and Marine Biology conducts research on terrestrial and marine organisms, holding ant specimens collected from Cyprus, throughout the past 20 years.

The Ecology and Biodiversity Laboratory conducts research on several aspects of biodiversity and ecology in the Eastern Mediterranean region, mainly focusing on arthropod diversity, biogeography and phylogeography.

Q10. Describe briefly the proposed Fellow's current role within their organisation and what relevance this has to one or more of the main themes of Darwin Plus.

Mr Jakovos Demetriou has been working alongside the project partners on invasive non-native species (INNS) for the past 3 years, as an MSc student, member of the scientific team Alientoma, Enalia Physis and JSHU. Mr Demetriou has been compiling information on INNS, contributing to the work of DPLUS088, DPLUS175 and his ongoing DPLUS124. In addition, he has participated in events related to biological invasions, biodiversity recording and pollinators at the Akrotiri Environmental Education Centre. These endeavours are relevant to three main themes of Darwin Plus; biodiversity, environmental quality and capability and capacity building. Specifically, during his ongoing DPLUS124 Mr Demetriou has substantially increased our knowledge regarding biological invasions of insects and their impacts on Cyprus. He has tripled the number of known non-native insects and constantly seeks to detect novel INNS. Thus, enhancing biodiversity conservation and management of INNS both in the short- and long-term, by identifying species constituting a risk towards native biodiversity and socio-economic parameters. His active participation in citizen-science oriented events (e.g. Akrotiri BioBlitz 2022; The Cyprus Institute Science Fair) has raised public awareness on biological invasions and ecosystem services provided by insects, promoting environmental citizenship in Akrotiri SBA and beyond.

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

The proposed fellowship aims to enhance our knowledge and raise awareness about a poorly studied insect family in Cyprus, with high ecological significance. Ants play a vital role in ecosystem services such as soil structure and movement, pollination, nutrient cycling, decomposition, dispersal and predation of seeds, and food provision. They are also sensitive and rapidly responsive to environmental changes and have thus been considered as potential bioindicators in land management.

The proposed fellowship will complement projects that have been established with Darwin Plus funding (DPLUS 056; 088; 124; 175). The proposed fellowship will:

- Provide a baseline of ants in the Akrotiri Peninsula to enhance scientific research around region's the fauna. This will be achieved by conducting structured monthly surveys across man-made and natural habitats in Akrotiri Peninsula to assess the impacts of land-use and biological invasions on ant communities. In addition, the biodiversity and spatiotemporal patterns of native and non-native ants will be deciphered.
 - Raise public awareness, pool, supplement, and summarize our knowledge of the ant fauna of Cyprus by creating an online information portal about the "Ants of Cyprus".
 - Establish and promote a citizen-science recording scheme "Antovreis" for the collection of ants by citizen-scientists.
- During the fellowship, the project will raise awareness on the ecological significance of ants, their role as household pests and biological invasions of non-native ants. Through this project, species richness, biological invasions and impacts of INNS as household pests will be investigated.

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 and publications in scientific journals. Each aforementioned objective is expected to produce at least one scientific publication, although the possible discovery of novel taxa or non-native species will be also disseminated.

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

Mr Jakovos Demetriou will be responsible for undertaking research under the joint supervision of Dr Martinou and Prof Roy who co-lead the project. The supervisors have strong experience in delivering Darwin Plus projects (DPLUS 056; 088; 101; 123; 124; 171; 172; 175) and will mentor Mr Demetriou in order for him to develop leadership and management skills ensuring the success of the fellowship. Mr Demetriou will be based in Cyprus for most of the fellowship with Dr Martinou at the JSU and Enalia Physis but will have regular online meetings (monthly) with Prof Roy.

Mr Demetriou will visit the Faculty of Zoology and Marine Biology (NKUA, Greece) to train on Scratchpads software (<https://scratchpads.org/>) as well as catalogue ant specimens collected from Cyprus and deposited in the Museum of Zoology.

Mr Demetriou will also visit the Department of Biodiversity and Evolutionary Taxonomy (Wroclaw, Poland) to gain valuable experience in ant identification, specimen handling and storage. Meetings with retired ant specialist Prof Lech Borowiec will be also scheduled further shape and develop the fellow's research interests and future career.

Mr Demetriou will frequently visit the Ecology and Biodiversity Laboratory, University of Cyprus, examining and comparing ant specimens collected from the island. Prof. Sfenthourakis will also assist the Fellow in ecological and biogeographic analyses, as well as phylogeographic analyses, where needed.

Project partners will have the chance to travel to Cyprus for fieldwork and further training. Mr Demetriou will be responsible for carrying out both field work and office-based work, investigating the ant fauna of Cyprus and specifically that of Akrotiri Peninsula. Nevertheless, opportunistic material surveys will be carried out throughout the island to further assess the biodiversity and distribution of species. Thus, supplementing generated data that may dictate the need for protection measures for taxa endemic to the island or Akrotiri Peninsula.

Q11c. Where appropriate, how the Fellowship will contribute towards one or more of the four of the four themes of Darwin Plus in the OTs i.e. what the expected outcome of the Fellowships will be.

This innovative, collaborative fellowship contributes to three main themes of Darwin Plus:

Biodiversity: this study represents the first monthly, structured survey generating data on the ant fauna of Cyprus. This project is tied with investigating the biodiversity, distribution and impacts of invasive non-native ants within a protected biodiversity area (SBA and RAMSAR site) and its adjacent regions setting a baseline on their long-term monitoring.

Environmental quality: throughout the fellowship material surveys in urban and natural habitats will help us identify differences in ant community assemblages mediated by human intervention and land use. Thus, generated quantitative data may contribute towards improving the condition and protection of the natural environment, and minimizing the risk of biodiversity loss and further spread of INNS.

Capability and capacity building: this fellowship will be supplementing and continuing the legacy of previous Darwin Plus projects by increasing our knowledge regarding the fauna of Akrotiri Peninsula as well as investigating and communicating the dangers posed by INNS and human-mediated habitat loss and modification. Thus, enhancing the capacity within OTs to support the environment in the short- and long-term. In addition, the citizen-science component aims to create a nationwide network of citizens actively contributing to the monitoring of invasive ants and biodiversity recording.

Simultaneously, the proposed fellowship seeks to address major ecological and societal problems of our time. First, the taxonomic impediment "The world-wide shortage of important taxonomic information, the gaps in our taxonomic knowledge, and the shortage of trained taxonomists" by mentoring and training the fellow in order to gain an expertise in the field of ant taxonomy (currently unoccupied in Cyprus) and second, the world-wide ecological crisis of biological invasions by researching the biodiversity, spread and impacts of INNS such as ants, currently represented by 6 species in the List of Invasive Alien Species of Union concern.

Section 6 - Legacy & Collaboration

Q12. Legacy

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

The designed online information portal and citizen science component of the study will effectively raise awareness within the Akrotiri community (and Cyprus in general) and a priority will be to create resources for the public. The report

produced, including guidance on implementing approaches to assess INNS, ecosystem services provided by ants, the impact of land use on terrestrial invertebrates and the household impacts of ants will be widely disseminated [through the project's online information portal, citizen-science initiative, the Cyprus Database of Alien Species (CyDAS) and Darwin Newsletters etc.]. The Fellow will lead dissemination events at the Akrotiri Environmental Education Centre, public schools and international conferences reporting on his findings, therefore providing the opportunity for feedback from citizens, environmental professionals and wetland managers. A summary of these discussions with key recommendations will be included in the strategy to achieve legacy. All data will be published openly and will feed previous Darwin Plus deliverables with data, where applicable (e.g. new data on alien ant species in the CyDAS). Through the fellowship Mr Demetriou will consider opportunities for knowledge exchange to other UKOTs and guided by his co-supervisors will deliver high quality outputs including peer-reviewed publications, blog posts and press releases.

Q13. Priorities

How will the Fellowship assist the OT's environmental priorities? Please refer to international or national environmental conventions, treaties, agreements, strategies and/or action plans relevant to the OT as appropriate.

The Akrotiri Peninsula includes a designated SBA and RAMSAR site of high ecological significance for the island. Nevertheless, it is currently threatened by land use change, climate change and INNS. The proposed fellowship seeks to raise awareness about the ecosystem services provided by ants as well as their biodiversity in Cyprus, where little scientific research has been carried and ants are mostly perceived as pests. This project will also investigate the spread and impacts of INNS, according to EU regulation 1143/2014 as well as the impacts of human-mediated land use change on ant community assemblages. 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 INNS as one of the major threats to the Peninsula. In addition, it seeks to supplement its list of "invertebrate interest of the peninsula" (p. 47) including rare or endemic species inhabiting the region. 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 UKOTs.

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 their own territory.

The proposal has been collaboratively drafted by all participants. Dr Martinou and Prof Roy have collaborated on numerous projects related to citizen-science, biodiversity-monitoring and INNS, including DPLUS 056; 088; 101; 123; 124; 171; 172; 175. Dr Martinou supervised Mr Demetriou's MSc Thesis and co-supervises with Prof Roy his ongoing DPLUS124. Mr Demetriou also contributed to the IPBES global assessment led by Prof Roy. Mr Demetriou has also been collaborating with Dr Salata and Dr Georgiadis studying native and non-native ants of Greece and Cyprus. Both experts have visited the island and conducted field work with the fellow during the conceptualization of the project. Mr Demetriou will engage with diverse stakeholders from the SBAs and the Republic of Cyprus and collate information regarding the island's myrmecofauna. Mr Demetriou has already developed links with various stakeholders throughout his entomological research, MSc studies and DPLUS124, including natural historians, civil servants in Ministries, NGOs and citizens. These collaborations will be maintained, expanded and utilized for a wider communication of findings. Mr Demetriou will also have the opportunity to visit experts' facilities for biodiversity training. The fellow will also closely collaborate with other proposed Darwin Fellowships regarding Hymenoptera (i.e. Evangelos Koutsoukos and Andri Varnava).

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 the JSU headquarters in Akrotiri. He will visit the Department of Biodiversity and Evolutionary Taxonomy, University of Wrocław, Poland and the Department of Biology, Faculty of Zoology and Marine Biology, NKUA, Greece for biodiversity training on his first year. The visit to Greece will be scheduled for September 2023, while Poland will be visited during the winter months according to the schedule of Dr Salata and Prof (Emeritus) Borowiec.

The fellowship involves collaboration among experts based at UKCEH, Wallingford, UK, JSHU, British Forces Cyprus, Akrotiri Headquarters, Enalia Physis Environmental Research Centre, the Department of Biodiversity and Evolutionary Taxonomy, University of Wrocław, Poland, the Department of Biology, Faculty of Zoology and Marine Biology, NKUA, Greece and the Ecology and Biodiversity Laboratory, Department of Biological Sciences, Faculty of Pure and Applied Sciences, University of Cyprus.

Mr Demetriou will focus his studies on the Akrotiri wetland. Visits to Greece and Poland will be during the first year of the fellowship. Mr Demetriou will then implement his research program in Cyprus.





Section 7 - Programme of Work

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

Provide a project implementation timetable that shows the key milestones in project activities.

[Implementation Timetable Template](#)

For each activity (add/remove rows as appropriate) indicate the number of quarters it will last, and fill/shade only the quarters in which an activity will be carried out.

 [Demetriou BCF Implementation Timetable Template](#)
[2022-23 FINAL](#)
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Section 8 - Certification

Certification

On behalf of the

Company

of

Enalia Physis Environmental Research Centre

I apply for a grant of






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 project schedule should this application be successful.

(This form should be signed by an individual authorised by the applicant institution to submit applications and sign contracts on their behalf.)

- I enclose one page CVs for project principals, cover letter, budget, implementation timetable, and letters of support as requested in the Guidance Notes.

Checked

Name	KELLY MARTINOU
Position in Organisation	HEAD ENTOMOLOGIST
Signed	 signature Kelly Martinou  17/10/2022  12:21:12  pdf 111.8 KB
Dated	17 October 2022

Section 9 - Submission Checklist

I have read the Guidance documents, including the "Guidance Notes for Applicants" and "Finance Guidance".	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.	Checked
I have provided a budget based on UK government financial years i.e. 1 April – 31 March and in GBP.	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 provided the relevant letters of support, cover letter, implementation timetable, and CVs with this application.	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 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 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).

Project Title: Biodiversity and spatiotemporal patterns of ants in the Akrotiri Peninsula

Guidance – please delete before submitting

Provide a **Project Implementation Timetable** that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project. Quarters are based on UK FYs (**1 April – 31 March** - Q1 therefore starts April 2023).

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 quarters in which an activity will be carried out. The activity numbers should correspond to the activities in your logical framework (logframe). The workplan can span multiple pages if necessary.

This template covers multiple Biodiversity Challenge Funds schemes, so ensure you check the eligible dates/project length for the scheme you are applying to and feel free to delete later years if not applicable for your project.

	Activity	No. of months	Year 1 (23/24)				Year 2 (24/25)				Year 3 (25/26)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1	Ants of Cyprus webpage	24	X	3	3	3	3	3	3	3	3	X	X	
1.1	Travel to Greece for training on Scratchpads	1	X	1								X	X	
1.2	Literature investigation and data-mining	9	X	3	3	3						X	X	
1.3	Construction of webpage and data entry <i>(constant updating throughout the project)</i>	24	X	3	3	3	3	3	3	3	3	X	X	
1.4	Literature review, preparation and submission of scientific publication 1 (Ants of Cyprus webpage)	3	X			3						X	X	
Output 2	“Antovreis” citizen-science recording scheme	24	X	3	3	3	3	3	3	3	3	X	X	
2.1	Preparation of ant collection kits	9	X	3	3	3						X	X	
2.2	Educational material (flyers, blogs, videos)	9	X	3	3	3						X	X	
2.3	Integration of project to the Ants of Cyprus webpage	3	X			3						X	X	
2.4	Public outreach, data acquisition and cataloguing	12	X				3	3	3	3		X	X	

Project Title: Biodiversity and spatiotemporal patterns of ants in the Akrotiri Peninsula

	Activity	No. of months	Year 1 (23/24)				Year 2 (24/25)				Year 3 (25/26)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2.5	Data analysis, preparation and submission of scientific publication 2 (“Antovreis” citizen-science initiative)	3							3					
Output 3	Biodiversity and spatiotemporal patterns of ants in Akrotiri Peninsula	24		3	3	3	3	3	3	3	3			
3.1	Travel to Poland for taxonomic training	1				1								
3.2	Material surveys	24		3	3	3	3	3	3	3	3			
3.3	Visit of experts to the island – material surveys	1					1							
3.4	Sorting, identification and storage of specimens	24		3	3	3	3	3	3	3	3			
3.5	Data analysis, preparation and submission of scientific publication 3 (Biodiversity and spatiotemporal patterns of ants in Akrotiri Peninsula)	3									3			