Applicant: **Martinou, Kelly**
Organisation: **Enalia Physis Environmental Research Centre**
Funding Sought: **£49,500.00**

DPR11F\1014

Evangelos Koutsoukos

Chalcid wasps are one of the most diverse insect groups, covering a variety of trophic regimes, however, have been greatly understudied in Cyprus. Throughout this fellowship native and non-native Chalcid wasp species will be studied at the protected Akrotiri Peninsula, increasing our knowledge of their biodiversity, biological invasions and impacts.

PRIMARY APPLICANT DETAILS

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

Section 1 - Contact Details

PRIMARY APPLICANT DETAILS

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

GMS ORGANISATION

Type	**Organisation**
Name	Enalia Physis Environmental Research Centre
Phone	[redacted]
Email	[redacted]
Address	[redacted]

Section 2 - Title, Dates & Budget Summary

Q3. Name and official address of proposed Darwin Plus Fellow

Include email details where available.

Name	Evangelos Koutsoukos
Address	[redacted]
Email Address	[redacted]

Q4. Summary of proposed Fellowship i.e. Outcome

Chalcid wasps are one of the most diverse insect groups, covering a variety of trophic regimes, however, have been greatly understudied in Cyprus. Throughout this fellowship native and non-native Chalcid wasp species will be studied at the protected Akrotiri Peninsula, increasing our knowledge of their biodiversity, biological invasions and impacts.

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
- 17/10/2022
- 18:54:35
- pdf 89.73 KB

Q6. Project dates

Start date:	End date:	Duration (e.g. 1 year, 2 months):
01 July 2023	30 June 2025	24 months

Q7. Budget summary

	2023/24	2024/2025	2025/2026	Total
Darwin funding request (Apr - Mar)	20,200	23,140.00	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.

- Koutsoukos BCF-Budget-under-£100K-MASTER-Apr22_MP
- 17/10/2022
- 18:57:48
- xlsx 38.92 KB

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	Georgiadis	Mitroiu	Compton
Forename(s)	Angeliki F (Kelly)	Christos	Mircea	Stephen
Post held	Head Entomologist	Teaching and Research Assistant	Professor (Associate)	Reader
Organisation	Joint Services Health Unit (JSHU) & Enalia Physis Environmental Research Centre	Department of Biology, Faculty of Zoology and Marine Biology, National and Kapodistrian University of Athens, Greece (NKUA)	Universitatea Alexandru Ioan Cuza	University of Leeds
Email	[redacted]	[redacted]	[redacted]	[redacted]

Do you require more fields?

⦿ No

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
17/10/2022
19:01:49
pdf 272.77 KB

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 Evangelos Koutsoukos will be employed through Enalia Physis, a Cyprus-based non-profit organization, which conducts and promotes environmental research and enhances education and ecological awareness to the general public.
Joint Services Health Unit is a military unit with environmental health, entomological and pest control expertise that runs integrated pest and vector management programs. The unit has military and civilian experts in terrestrial and freshwater ecosystems.
Universitatea Alexandru Ioan Cuza is based at Iasi, where the laboratory of Mitroiu is located. There, academic personnel and students study Chalcid wasps.
Natural History Museum (London), hosts one of the biggest collections of Chalcid wasps of the world, with hundreds of thousands of specimens from all over the biogeographic realms.

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 Evangelos has been working alongside the project partners on invasive non-native species (INNS) as well as the

biodiversity of Chalcid wasps of Greece and Cyprus for the past 3 years, as an MSc student and member of the scientific team Alientoma. As visitor fellow in Cyprus, during a COST Short Term Scientific Mission regarding the alien insects associated with F. microcarpa, Mr. Koutsoukos had the opportunity to collaborate with Dr. Martinou and Mr. Demetriou regarding the fig tree pests, alien insects of Cyprus and Chalcid wasps of Cyprus. 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; a) biodiversity (increase our knowledge on native and non-native fauna), b) environmental quality (investigate socioeconomic impacts of INNS and ecosystem services of native species) and c) capability and capacity building (implications on conservation for rare, endemic or important species, and eradication of harmful INNS).

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 superfamily in Cyprus, with high ecological significance. Chalcid wasps play a vital role in both natural and agricultural ecosystems since they are used for biological control. Except from parasitoids, there are some phytophagous species that act as plant pests. This superfamily, is one of the most diverse insect groups, containing the smallest known insect up-to-date, and with approximately 25000 described species, although this number is estimated to be around half a million.
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 Chalcid wasps in the Akrotiri Peninsula to enhance scientific research around the region's fauna. This will be achieved by conducting structured monthly surveys across man-made and natural habitats in Akrotiri Peninsula to assess the native and non-native Chalcid fauna along with their impacts.
• Raise public awareness, pool, supplement, and summarize our knowledge of the Chalcid wasp fauna of Cyprus by creating an online information portal about the "Chalcid wasps of Cyprus".
• Establish the basis of a long-term project regarding the whole Chalcid wasp fauna of Cyprus. Additionally, non-native Chalcid species that will be collected, will serve to future research regarding the introduction pathways of alien species in Europe, with the integrated use of morphological and molecular tools.
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 Evangelos Koutsoukos will be responsible for undertaking research under the supervision of Dr Martinou. The supervisor have strong experience in supervising and delivering Darwin Plus projects (DPLUS 056; 088; 101; 123; 124; 171; 172; 175) and will mentor Mr Koutsoukos in order for him to develop leadership and management skills ensuring the success of the fellowship. Mr Koutsoukos will be based in Cyprus for most of the fellowship with Dr Martinou at the JSHU and Enalia Physis.
Mr Koutsoukos will visit the Faculty of Biology 'Alexandru Ioan Cuza' at the University of Iasi (Romania) to train in accordance to "Collection methods and identification of parasitic wasps, with special emphasis on Chalcidoidea (Hymenoptera)" - DEST (Distributed European School of Taxonomy). Meetings with Chalcid wasps specialists Dr. Mircea Mitroiu and Dr. Lucian Fusu will also provide to the participant valuable experience in Chalcid wasp identification, specimen handling, further shaping and developing his research interests and future career. Additionally, he will visit the Faculty of Marine Biology and Zoology at the National & Kapodistrian university of Athens, in order to train on Scratchpads software (https://scratchpads.org/). Additionally, Mr Koutsoukos will have the opportunity to visit the National History Museum of London, where the greatest Chalcidoidea collection is located, examine types, and compare specimens collected during this project.
Mr Koutsoukos will be responsible for carrying out both field work and office-based work, investigating the Chalcid wasp 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 is the first periodically organised, structured survey about the Chalcid wasp fauna of Cyprus. This project is associated with investigating the biodiversity, distribution and impacts of invasive non-native Chalcid wasps within a protected biodiversity area (SBA and RAMSAR site) and its adjacent regions setting the foundations for their long-term monitoring.
Environmental quality: throughout the fellowship material surveys in man-made and natural habitats will help us compare differences in Chalcid wasp faunas mediated by human intervention and land use. Thus, enriching our knowledge regarding this diverse insect group 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: capacity within OTs to support the environment in the short- and long-term will be enhanced, since our knowledge regarding native and non-native fauna of Akrotiri Peninsula will be supplemented, and conservation or eradication implications will be proposed -respectively-, where it will be deemed necessary.
Furthermore, this proposed fellowship seeks to address two major problems of our time on both environmental and societal level. 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 Chalcid wasp 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 Chalcid wasps, which can be easily dispersed through the transportation of goods, antagonize native parasitoids that are not adapted to this type of stress, become pests of local and introduced plant species, and even disrupt the local faunal assemblages.

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 platform that will be created will effectively raise awareness within the Akrotiri community (and Cyprus as a whole) about the island's native Chalcid wasp fauna (rare or endemic species), as well as INNS, along with their socio-economic and environmental impacts. The report produced, will include guidance for implementation of INNS assessments in case these are deemed necessary and will focus on ecosystem services provided by Chalcid wasps, throughout different habitats in Akrotiri peninsula and Cyprus. The Fellow will lead informative events at the Akrotiri Environmental Education Centre and international conferences reporting on his findings, with the hopes of receiving feedback from citizens and environmental professionals. 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 as well deliverables of the fellow's past STSM project with data, where applicable (e.g. new data on alien fig wasp species or Chalcid wasps associated with fig trees in the CyDAS). Mr Koutsoukos 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 conference presentations.

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 biodiversity of native and non-native Chalcid wasps along with their ecosystem services in Cyprus, where the representatives of this subfamily have received little scientific attention predominantly due to their small size. This project also aims to investigate the spread and impacts of INNS, according to EU regulation 1143/2014. The proposed work is in line with the Akrotiri Peninsula Environmental Management Plan (https://sbaadministation.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 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 Koutsoukos's STSM COST project which was conducted at the Akrotiri peninsula during March-April 2022. Mr Koutsoukos has also been collaborating with Dr Martinou and Mr Demetriou studying native and non-native insects of Greece and Cyprus. Additionally, Dr. Mitroiu and Dr. Compton have been collaborating with Mr Koutsoukos regarding Chalcid wasps the last years.
Mr Koutsoukos has already developed links with various stakeholders throughout his entomological research, MSc studies and STSM COST, 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 Koutsoukos 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. Jakovos Demetriou 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 JSHU headquarters in Akrotiri. He will visit the University Alexandru Ioan Coza at Iasi of Romania, for a DEST training program regarding Chalcid wasps. This visit will be scheduled for September 2023, while the Natural History Museum of London will be visited in the following year according to the schedule of the curators of the Chalcidoidea Collection. During his visit in England, Mr Koutsoukos will visit Dr. Stephen Compton. Mr Koutsoukos will focus his studies on various habitats on the Akrotiri wetland. Visits to Greece, Romania and the UK will be undertaken during the fellowship.

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.

- Koutsoukos BCF_Implementation_Timetable_Template_2022-23_FINAL
- 17/10/2022
- 19:22:45
- docx 34.5 KB

Section 8 - Certification

Certification

On behalf of the

Company

of

Enalia Physis Environmental Research Centre

I apply for a grant of

[redacted]

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 19:24:22 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: Species richness and biological invasions of Chalcid wasps in 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	Chalcid wasps of Cyprus webpage	24		3	3	3	3	3	3	3	3	3		
1.1	Travel to Greece for training on Scratchpads	1		1										
1.2	Literature investigation and data mining	9		3	3	3								
1.3	Construction of webpage and data entry (constant updating throughout the project)	24		3	3	3	3	3	3	3	3	3		
1.4	Literature review, preparation and submission of scientific publication 1 (Chalcid wasps of Cyprus webpage)	3				3								
Output 2	Biodiversity of Chalcid wasps in Akrotiri Peninsula	24		3	3	3	3	3	3	3	3	3		
2.1	Selection of sampling localities	3		3										
2.2	Material sampling by non-standardized and standardized methods	16			3	1	1	3	3	1	1	3		
2.3	Travel to Romania for taxonomic training (DEST course)	12			1									
2.4	Handling of reared material from collected plant parts	21			3	3	3	3	3	3	3	3		

Project Title: Species richness and biological invasions of Chalcid wasps in 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(s) of the alien Chalcidoidea of the Akrotiri peninsula	3								3				
Output 3	Identification of material and compiling of the checklist of Chalcidoidea of Cyrpus	24		3	3	3	3	3	3	3	3	3		
3.1	Travel to Natural history museum of London for material examination	1									1			
3.2	Sorting, identification and storage of specimens	24		3	3	3	3	3	3	3	3	3		
3.3	Data analysis, preparation and submission of scientific publication (Checklist of Chalcidoidea of Cyprus with additional records)	3										3		