

Applicant: **Saratsis, Anastasios**
Organisation: **Hellenic Agricultural Organisation Demeter (ELLINIKOS GEORGIKOS ORGANISMOS - DIMITRA)**
Funding Sought: **£49,450.00**

DPR11F\1009

Katerina Athanasiou

At the SBAs, Cyprus no tick monitoring scheme currently exists. The current fellowship aims at creating capacity for the monitoring of established/potentially invasive tick species and the pathogens they transmit, raise awareness about ticks among the local population, complementing previous and current Darwin projects at the SBAs.

PRIMARY APPLICANT DETAILS

Title Dr
Name Anastasios
Surname Saratsis
Organisation Hellenic Agricultural Organisation
Demeter
Website (Work) [REDACTED]
Tel (Work) [REDACTED]
Email (Work) [REDACTED]
Address [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
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CONTACT DETAILS

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

Section 1 - Contact Details

PRIMARY APPLICANT DETAILS

Title Dr
Name Anastasios
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CONTACT 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	Hellenic Agricultural Organisation Demeter (ELLINIKOS GEORGIKOS ORGANISMOS - DIMITRA)
Phone (Work)	[REDACTED]
Email (Work)	[REDACTED]
Website	[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	Katerina Athanasiou
Address	Foti Pitta 17, Limassol, 4002, Cyprus
Email Address	[REDACTED]

Q4. Summary of proposed Fellowship i.e. Outcome

At the SBAs, Cyprus no tick monitoring scheme currently exists. The current fellowship aims at creating capacity for the monitoring of established/potentially invasive tick species and the pathogens they transmit, raise awareness about ticks among the local population, complementing previous and current Darwin projects at the SBAs.

Q5. UKOT involved





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

Sovereign Base Areas of Cyprus (SBAs)

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 merged](#)
-  11/10/2022
-  11:00:33
-  pdf 129.14 KB

Q6. Project dates

Start date:	End date:	Duration (e.g. 1 year, 2 months):
01 April 2023	31 March 2025	2 years

Q7. Budget summary

	2023/24	2024/2025	2025/2026	Total
Darwin funding request (Apr - Mar)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]





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.

 [BCF-Budget-under- 100K-MASTER-Apr22.TickAlert Project final](#)
 15/10/2022
 11:50:16
 xlsx 39.57 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	Saratsis	Martinou	<i>No Response</i>	<i>No Response</i>
Forename(s)	Anastasios	Angeliki	<i>No Response</i>	<i>No Response</i>
Post held	Researcher	Head Entomologist	<i>No Response</i>	<i>No Response</i>
Organisation	Hellenic Agricultural Organisation Demeter-Veterinary Research Institute	Joint Services Health Unit British Forces Cyprus & Enalia Physis Environmental Research Centre	<i>No Response</i>	<i>No Response</i>
Email	saratsis@elgo.gr	af.martinou@gmail.com	<i>No Response</i>	<i>No Response</i>

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.

 [merged CVs](#)
 29/09/2022
 11:31:55
 pdf 136.3 KB

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.

Hellenic Agricultural Organisation-Demeter (HAO) is the national body for Agricultural Research and Technology in Greece. HAO-Veterinary Research Institute (HAO-VRI) is the principal organisation for animal health and welfare R&D and advice in Greece and aims to reduce environmental impacts and improve food quality. The Laboratory of Parasitology focuses the R&D activities on epidemiology of parasitic infections, among others vector-borne diseases, integrated disease management (including antiparasitic treatments and alternative solutions) and spread of parasitic zoonoses.

Joint Services Health Unit (JSHU) is a military unit with entomological, environmental health, and pest control expertise, running integrated pest and vector management programmes in Cyprus and overseas. The unit has expertise in applied and medical entomology, vector ecology and pest management.

Enalia Physis Environmental Research Centre (EPERC) is Cyprus's leading NGO in marine and terrestrial sciences, covering a wide range of research fields e.g. invasive species, and marine and coastal conservation.

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.

Ms Katerina Athanasiou has been working at the Joint Services Health Unit, British Forces Cyprus at the Sovereign Base Area of Akrotiri, voluntarily for the past three years where she also undertook her BSc thesis which was looking at the impacts of environmental change on mosquito populations at different habitats of the Akrotiri peninsula. She has a strong interest in vectors of animal and human disease and their impacts on biodiversity. Her BSc thesis looked at the impacts of different land uses on mosquito population dynamics and how environmental quality affects mosquito populations. She also participated in raising awareness and capacity building projects aiming to increase knowledge about the risks of invasive alien mosquitoes and how human impacts can affect vectors and participated in events aimed at schools, the local populations and participated in three international conferences. The current Darwin Plus fellowship aims at building capability and capacity within the SBAs Cyprus on tick monitoring through a collaboration between the Joint Services Health Unit British Forces Cyprus and the ELGO organization in Greece as well as Enalia Physis. It is expected to improve our knowledge on the tick biodiversity and their impacts within SBAs in Cyprus 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

Ticks are blood-feeding parasites of mammals, birds, and reptiles and established vectors of pathogens, whose life cycle and distribution depend on climate, host populations, landscape, and environmental characteristics. Pathogens are ubiquitous in nature, and they can play crucial roles in ecosystem processes. So far, emphasis has been given on the emergence of infectious diseases from wildlife that threatens livestock and human health and the role of wildlife as originators of the infectious agents. However, in practice the balance is often skewed towards demonstrating the 'source' of 'new' human disease rather than determining 'why', in terms of One-Health. As such, we need to better understand the factors that enable both zoonotic as well as epizootic disease emergence and may lead to outbreaks of disease, including their effects on ecosystem services. The latter is of particular importance in ecologically complex ecosystems exposed to a variety of anthropogenic pressures and climate change such as the one of the targeted OT. As such, environmental management plans are often subject to restrictions imposed by both national and international regulations. Therefore, the integration of dedicated vector surveillance systems targeting both invasive and endemic vector species constitutes an important component of evidenced based decision making within the frame of such management plans. Currently, such a system regarding ticks and tick-borne diseases is lacking in the SBAs of Cyprus. Therefore, the main aim of the fellowship is to build capacity for such a system. Objectives of the proposed fellowship are:

- to establish and compare methods of tick collection/-density estimation adjusted to the peculiarities of the SBAs
- mapping of the tick fauna (endemic and/or invasive species) at the SBAs using a systematic sampling approach
- the characterization of pathogens circulating in the target SBAs using molecular approaches
- document the level of and raise awareness about ticks and tick-borne diseases (TBDs)

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

Ms Katerina Athanasiou (Proposed Fellow) will be responsible for undertaking the research under the joint supervision of Dr Saratsis and Dr Martinou who co-lead the project. Both supervisors have strong mentoring skills and Dr Martinou

already delivered Darwin Plus projects with success, among others focusing on invasive alien species, including mosquitoes. Dr Saratsis is an expert in ticks/TBDs epidemiology, control and prevention, through his participation in several projects and related post-doctoral work among others focusing on mediterranean island environments. The proposed fellowship offers an interdisciplinary jointed approach, gaining forces from a strong collaboration of experts from two institutions embracing both the One-Health and One-Biosecurity philosophy. The strategic plan for the fellow's development is three-fold and includes:

- 1) Setting the basis for the development of a monitoring system at the SBAs, which will act as a constant shield providing all information needed for the timely prediction of TBDs dispersal and prevention of future disease outbreaks in this OT,
- 2) The design of a robust prevention strategy and resilient intervention plan against TBDs on the midterm in order to protect human and animal health, and
- 3) The training and collaboration of young research staff on 'state-of-the art' techniques, modern methods and scientific protocols. The current fellowship also perfectly matches with Ms Athanasiou forthcoming enrolment at a postgraduate Public Health program (University of West Attica, Greece) and will allow her to get hands-on experience in this scientific field.

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.

Epizootics and epidemics can be partly explained by climate change, which acts as a driver for many alterations at the human/animal/pathogen interface, including changes in human demographics, behaviour, movement of people and animals, biodiversity loss, land use practices and other environmental changes. Many of those diseases are tick-borne and their transmission/distribution patterns are ultimately influenced by the above changes, which in most cases have a profound effect on the distribution expansion or establishment of the vectors in new places. The last large-scale study on tick abundance and distribution in Cyprus was performed more than 15 years ago, not to mention the total lack of time series data for both SBAs and Cyprus. This important data gap hinders an objective assessment of the risks posed by both endemic and potentially invasive ticks and Tick Borne Diseases (TBDs) in the target area. Since Akrotiri peninsula is hosting one of the largest and ecologically complex ecosystems in Cyprus, including its role as an important migratory bird hotspot, the risk of tick invasion events shouldn't be underestimated. The present innovative, collaborative fellowship aims to create capacity for the development of a monitoring scheme regarding ticks and TBDs contributing to the specified priority issues for Round 11: 1) enriching our knowledge on biodiversity regarding the tick fauna of SBAs and related TBDs, setting the basis for future studies on potential ecosystem disservices posed by ticks affecting wildlife, domestic animal and human health interface 2) create capacity to assess possible effects of both anthropogenic pressures (eg. biodiversity loss) and climate change on tick and TBD distribution/emergence in the SBAs 3) raise awareness among local communities (SBAs and Cyprus), authorities and stakeholders about ticks/TBDs, their prevention and environmental dependence as part of a holistic health promotion strategy which considers environmental/planetary health as well.

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 UK Health Security Agency (UKHSA) encourages everyone to 'be tick aware'. However, apart from tick distribution data, no baseline data exist to date at the SBAs, with regard to the local population's knowledge, attitudes and practices (KAP) relating to ticks and TBDs. Such data constitute the cornerstone for an evidence based practice in health promotion programs, including their evaluation. A questionnaire based KAP study will be therefore performed in the target area from the fellow in order to cover this gap and get relevant data (also as part of Ms Theodosiou MSc Thesis in Infectious diseases/Public Health). Obtained field/epidemiological data and effective primary prevention strategies against ticks/TBDs will be then widely disseminated to local stakeholders and the wider community (including high risk groups) through the organisation of three dissemination events and their communication in local social media and the projects webpage. This will also include the distribution of information e-leaflets with easy to understand tick awareness messages at the local level. Possible knowledge gaps and misbeliefs on this issue will therefore be effectively addressed.

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 proposed fellowship is in line with the environmental priorities set by the UKOTs biodiversity strategy white paper and the Akrotiri peninsula environmental management plan. It will provide baseline data on established and potentially invasive tick species (including established and invasive pathogens transmitted by them) at the SBAs through the application of a variety of sampling methods by considering different habitats, periods of the year and ecological/biological characteristics of the ticks (i.e hunting vs questing ticks). This will enhance our knowledge on the SBAs biodiversity and inform about possible impacts of ticks on ecological disservices, including possible threats for wildlife species, domestic animals and public health. The establishment of a tick monitoring scheme, in the long term, will enable the evaluation of climate change related effects and existing environmental pressures on their distribution, population dynamics and potential invasiveness at the studied area. This fellowship will be a first step towards the development of sustainable prevention and control strategies related to ticks and the pathogens they transmit.

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.

Katerina (the proposed Fellow) in collaboration with the Project Leader Dr Saratsis has developed this proposal. Katerina has participated in a training school organised by Dr Saratsis in Akrotiri on tick survey and identification for University students. During the fellowship Katerina will have the opportunity to learn more and practice tick collection methods and identification but also molecular techniques on pathogen identification. She will also gain expertise in analysing the results using GIS software and appropriate spatial autocorrelation methods (e.g. Global Moran's I) and assessing the impacts of land use of tick populations. Additionally, she will develop her capacity building skills by participating in events regarding raising awareness about ticks that will be planned jointly with the project leader and co-leader Dr Kelly Martinou, Head entomologist at the Joint Services Health Unit British Forces Cyprus.

Q15. Where will the Fellow be based?

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

Ms Katerina Athanasiou will be based at the Joint Services Health Unit at the Headquarters of Akrotiri in order to be close to her field sites and conduct her field surveys. She will also have an office at the premises of Enalia Physis and she will visit Dr Saratsis at the Veterinary Research Institute/Hellenic Agricultural Organisation/Greece) in order to conduct molecular work in his lab from 15-11-2024 to 23-12-2024.





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.

-  [BCF Implementation Timetable Template 2022-23 FI NAL Athanasiou](#)
-  15/10/2022
-  07:16:59
-  docx 36.57 KB

Section 8 - Certification

Certification

On behalf of the

Trustees

of

Hellenic Agricultural Organisation Demeter

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	Anastasios Saratsis
Position in Organisation	Researcher
Signed	 electronic sign  06/10/2022  08:29:05  pdf 272.3 KB
Dated	06 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: Capacity development for the surveillance of established/invasive ticks and tick-borne diseases at the SBAs (TickAlert) Project duration: 1 April 2023- 31 March 2025

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)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1	Preparatory actions and follow up/reporting									
1.1	Literature review on tick species and TBDs found in Cyprus including comparison of collection methods	3								
1.2	Literature review on knowledge, attitude and practices regarding ticks and tick-borne diseases in Europe and the Middle East	3								
1.3	Training of the fellow on different tick collection methods appropriate for both questing and hunting ticks (dragging/flagging, collection from domestic animals, CO2 traps) including their identification using appropriate keys and follow up of progress in the field/lab (visits by Dr Saratsis at the SBAs)	1								
1.4	Systematic sampling plan using GIS software and selection of sampling sites based on differing habitat characteristics/on-site pilot visits for site selection	1								
1.5	Reporting	2								
Output 2	Tick fauna and associated pathogen characterisation at the SBAs									

Project Title: Capacity development for the surveillance of established/invasive ticks and tick-borne diseases at the SBAs (TickAlert) Project duration: 1 April 2023- 31 March 2025

	Activity	No. of months	Year 1 (23/24)				Year 2 (24/25)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2.1	Comparison of different sampling methods (dragging/flagging/CO2 traps) in locations to be established twice every month (considering effect of sampling method/month/habitat type on tick species/developmental stage/ collection efficiency)	20								
2.2	Tick identification based on morphological characters (including molecular confirmation if needed)	14								
2.3	Molecular analysis (using PCR and PCR-reverse line blot) of a representative number of ticks for pathogens of the genus <i>Babesia</i> , <i>Theileria</i> , <i>Rickettsia</i> . Confirmation by sequencing (including visit of the fellow at Veterinary Research Institute)	4								
2.4	Data analysis	6								
Output 3	Stakeholder identification/engagement and outreach activities									
3.1	Creation and updating of project website and social media pages	19								
3.2	Identifying, meeting and engaging with stakeholders from the SBAs and the Republic of Cyprus (eg. community, citizen scientists, public sector, NGOs, local vets, stray-dog/cat shelters, pet owners). Organisation of 3 dissemination events at Akrotiri Environmental Education Centre and/or Enalia Physis Environmental Research Centre (in black).	24								
3.3	Creation of e-leaflets regarding tick bite and tick-borne disease prevention/awareness and dissemination through project website/social media	2								

Project Title: Capacity development for the surveillance of established/invasive ticks and tick-borne diseases at the SBAs (TickAlert) Project duration: 1 April 2023- 31 March 2025

	Activity	No. of months	Year 1 (23/24)				Year 2 (24/25)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3.4	Preparation of a peer reviewed publication and popular science article	6								
Output 4	Knowledge, attitude and practices (KAP) regarding ticks and tick-borne diseases									
4.1	Development of a structured KAP questionnaire and pre-testing	3								
4.2	Distribution of questionnaires thorough online sources and/or locally trusted organisations/persons targeting high-risk groups	3								
4.3	Descriptive and statistical analysis of results	3								