

## E5 NERC Summer Research Experience Placements 2026

Please return to [e5dtp.info@ed.ac.uk](mailto:e5dtp.info@ed.ac.uk)

<b>A. Supervisor (s) - Name, email and affiliation</b>
<p>I. David Harris, <a href="mailto:dharris@rbge.org.uk">dharris@rbge.org.uk</a> , RBGE</p> <p>II. Antje Ahrends, <a href="mailto:AAhrends@rbge.org.uk">AAhrends@rbge.org.uk</a>, RBGE</p>
<b>B. Student Mentor (current PhD student) Name, email and affiliation</b>
Galen Costomiris GeoSciences & RBGE (DTP E4) <a href="mailto:G.D.Costomiris@sms.ed.ac.uk">G.D.Costomiris@sms.ed.ac.uk</a>
<b>C. Department/School</b>
Royal Botanic Garden Edinburgh (RBGE)
<b>D. Placement Project Title</b>
Taxonomy and ecology of the genus <i>Rinorea</i> ( <i>Violaceae</i> ) in the Sangha Trinational.
<b>E. Job purpose</b>
The genus <i>Rinorea</i> forms an important component of the rainforest in many tropical regions. In the Sangha Trinational (Cameroon, Republic of Congo and CAR) there are 8 species. This project will use digital photographs and dried herbarium specimens to produce illustrated keys to sterile material for use in ecological monitoring in permanent sampling plots and taxonomic accounts.
<b>F. Host and project outline</b>
<p>The project will be based at the Royal Botanic Garden Edinburgh with which holds unparalleled collections from the Sangha Trinational in central Africa. Students will learn to work with herbarium specimens, digital images, ecological data, species concepts as hypotheses, and taxonomic data. Analyses of data will be carried out using specialised software and R.</p> <p>Small and medium-sized tree species make up a large proportion of species level diversity in many tropical forests. The species can be impossible to identify without careful taxonomic revisions. This project addresses a manageable taxonomic problem that has downstream ecological and conservation implications. The creation of taxonomic tools to facilitate identification and putting the species in the wider taxonomic context will improve our understanding of abundance, vegetation types and allow improved IUCN conservation assessments.</p>

References.

Harris, D.J., Moutsamboté J.-M., Kami, E., Florence, J., Bridgewater, S. & Wortley, A.H. (2011) An introduction to the trees from the north of the Republic Congo: Royal Botanic Garden Edinburgh  
<https://doi.org/10.1600/036364415X686486>

van Velzen, R., Wahlert, G. A., Sosef, M. S. M., Onstein, R. E., & Bakker, F. T. (2015). Phylogenetics of African *Rinorea* (Violaceae): Elucidating Infrageneric Relationships using Plastid and Nuclear DNA Sequences. *Systematic Botany*, 40(1), 174-184.

Wahlert, G.A., Gilland, K.E. and Ballard Jr, H.E., 2020. Taxonomic revision of *Rinorea ilicifolia* (Violaceae) from Africa and Madagascar. *Kew Bulletin*, 75(1), p.12.

**G. Main responsibilities**

- Asses existing taxonomic concepts of *Rinorea* using herbarium specimens and digital images. 20%
- Formulate novel hypotheses for species concepts 10%
- Test species concept hypotheses 20%
- Update herbarium specimen data with novel species concepts 10%
- Update permanent plot data records for *Rinorea* 10%
- Analysis of herbarium and plot data 30%

**Key contacts and relationships**

N/A

**H. Knowledge, skills and experience required for the role**

Attribute	Essential	Desirable
<b>Education, Qualifications &amp; Training</b>	<ul style="list-style-type: none"> <li>• Undergraduate-level understanding of biological taxonomy</li> </ul>	
<b>Knowledge &amp; Experience</b>	<ul style="list-style-type: none"> <li>• Some experience in identification of a group of organisms</li> <li>• Knowledge about the importance of identification</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of plant identification</li> </ul>

**I. Planning and organising**

- This research will require a data plan which will be created with the supervisors.
- Organizational skills will be required to manage different data sets and the time sequence of the research.

**J. Problem solving**

- An interest in solving research problems will be essential for anybody taking on this research.

**K. Decision making**

- N/A

**L. Length and timing of placement**

8 weeks. Start date to be agreed.

**M. Budget**

N/A

**N. Location and Equipment**

Royal Botanic Garden Edinburgh, Science Buildings Eh3 5LR

**O. Health & Safety requirements**

N/A

**P. Job hazards specific to the role**

N/A

**Q. Alternative/adjusted placement (remote placement only).**

N/A