

BID Africa 2017 – National Grant Early Progress narrative report

BID/GBIF Arabuko-Sokoke Data Digitisation Project

By A Rocha Kenya — BID-AF2017-0274-NAC

For:

The Global Biodiversity Information Facility Secretariat (GBIFS)
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2. Project Information

2.1. Project Coordinator: Institution/network/agency name:

Daniel Kazungu, A Rocha Kenya.

2.2. Main contact person and role:

Colin Jackson, National Director, A Rocha Kenya.

2.3. BID proposal identifier: BID-AF2017-0274-NAC

2.4. Project title: BID/GBIF Arabuko-Sokoke Data Digitisation Project

2.5. Start date and end date of the reporting period: 01/10/2017 to 31/12/2017

2.6. Country in which the activities take place: Kenya

3. Overview of results

3.1. Executive summary

The Arabuko-Sokoke Forest Biodiversity Information Development (ASF- BID) project has recorded good progress within the first period of implementation. Most of the preparatory deliverables such as facility development, staff capacity enhancement and data mobilization have been achieved satisfactorily. A project start up meeting was conducted at the National Museums of Kenya (NMK), where the heads from main project partners: A Rocha Kenya (ARK), Kenya Wildlife Service (KWS) and the National Museums of Kenya (NMK) and ASF Guides Association (ASFGA) attended. Resulting from this forum, partners were able to unpack the project, share key expected contributions from each partner thus preparing the ground for the project to kick off. Key project team members including the Project Coordinator and four data clerks have been recruited during this phase to support project implementation. We enhanced IT facilities within partner institutions where six new computers/ laptops and five high speed wireless modems were purchased to facilitate project activities. A staff capacity enhancement workshop was conducted to introduce the project and train data clerks and other staff from partner institutions on biodiversity data management best practices and data digitisation using the Global Biodiversity Information Facility (GBIF) templates. The workshop was opened up for other scientists and museum staff to attend in order to raise awareness about GBIF, its aims and how it functions. Participants were able to understand the ASF-BID project and GBIF, and how to digitise, clean and geo-reference data to comply with GBIF standards. A follow up training was conducted at NMK for data clerks alone to assess progress, address challenges and share lessons emanating from project implementation. Three project partners including ARK and the two sections of NMK successfully conducted the data holder capacity self-assessment. Data mobilisation activities including data mining and organising are well underway and actual digitisation has begun successfully. The following are approximate totals of records digitised and cleaned to date that are being prepared for checking to be published on GBIF database: c.3,000 bat records, 4,000 bird records including ringing data, specimen, observation and checklist data, 2,000 butterfly records. We anticipate publishing our first data in February.





3.2. Progress against expected milestones:

Expected milestones/activities	Completed? Yes/No	Explanatory notes	Sources of verification
Completed capacity self-assessment questionnaire for national biodiversity information facilities https://www.gbif.org/document/82277/capacity-self-assessment-guidelines-for-national-biodiversity-information-facilities (EN)	No - partially	ARK and the two of three sections of NMK have successfully completed the data holder capacity assesment The head of the third NMK section has been out of office for 10 weeks and thus unavailable to contribute until 15 Feb. KWS are going through the process which has been slowed down due to the lead person for the BID project in KWS being moved to a different position. There is yet to be a full replacement so we are doing what we can with the KWS staff we are able to work with..	Copies of these have already been sent to GBIF secretariat.
At least one national data publishing institutions are registered with GBIF.org Guidelines to become a publisher: https://www.gbif.org/become-a-publisher	Yes	National Museum of Kenya is registered with GBIF as a data publishing institution and as such will publish data mobilised and digitised through the ASF- BID project. Before publishing, data will be hosted at A Rocha Kenya. The Animal Demography Unit is also registered through SANBI and submits data regularly to GBIF.	https://www.gbif.org/publisher/fd515d3a-b237-42de-bba6-760008580da5
At least one person from the project team has completed the	No	Our project team member was lined up	Not applicable.





certification process following the BID Capacity Enhancement workshop on Data Mobilization organized as a part of the BID programme Africa 2015 or the BID programme Africa 2017		to travel for the workshop but was unable to due to passport delays together with wrong advice from the visa processing company. Two individuals from the project team will however participate in the online training that will take place soon.	
Knowledge dissemination activities have been scheduled following the first BID Capacity Enhancement workshop	Yes.	The first real knowledge dissemination workshop has been planned for February where key stakeholders and partners will meet to brainstorm and share project expected outcomes, discuss and agreed on project milestones and clarify responsibilities.	Not applicable.

3.3. Project deliverables and activities

Deliverable	Related activity	Completed ? Yes/No	Explanatory notes	Sources of verification
Network of staff in partner institutions trained in digitisation and best practice for management of biodiversity data for Arabuko-Sokoke Forest (ASF)	Staff training – interactive workshops	Yes	Three workshops have been held at NMK for the key staff involved for digitising the data from NMK and ARK. A one on one follow up training for data clerks at NMK was done in December and again in January.	<i>Refer to appendix I, II and III</i>
	Staff training – best practices document	No	The development of this document is planned for the next period – the first period has focussed on	Not applicable.





			getting digitisation happening.	
Data sharing agreements from all participating partners	Stakeholder engagement	No	This activity is scheduled for the third week of February where representatives from partner institutions will be available to meet, discuss and sign a draft MOU.	Not applicable.
Partners lacking in sufficient facilities equipped and facilitated to carry out high standards of data mobilisation.	Facility Development	Yes	Six computers and five high speed wireless modems were purchased to strengthen the capacity of project partners to implement the project. NMK received three computers for the ornithology, mammology and entomology sections, KWS, ARK and ASFGA both received one computer each. All partners received modems except for KWS and ASFGA who will share one modem because they are housed in the same facility.	<i>Refer to appendix IV for photos of handing over of laptops.</i>
Georeferenced database records and specimens published for coastal forest taxa.	Data mobilization.	No	No data has been actually published on GBIF yet. However, we have collectively digitised over 7,000 records of birds (c.2,300 including ringing data, observation and checklist), mammals (c.3,000 bat records) and entomology (c. 2,000 butterfly specimens).	Link for published data will be shared once the datasets are uploaded and published through NMK.





			Dropbox folders have been set up for each partner's data to have cloud backup and enhance accountability for real time monitoring. As a data security measure, the project coordinator further backs up this data regularly.	
Partner institution staff trained in best practice for data collection and curation	Staff training – workshops on data collection best practice	No	Getting the project going over the end of year / Christmas period has been challenging to get partners really stuck in and engaged. This workshop is planned for the next period	Not applicable
Workplan and strategy for project implementation	Stakeholder engagement	No	One of three planned meetings was held at the beginning of the project in October at the National Museum of Kenya.	<i>Refer to appendix I</i>





3.4. Datasets published on GBIF.org

Dataset title	Publishing institution	DOI or URL/Planned hosting institution	Date/expected date of publication	Explanatory notes
Coastal Forest Bird Ringing Data	A Rocha Kenya NMK – Ornithology Section	National Museums of Kenya	By 15 th March	Data mobilization digitisation in progress.
Coastal Forest Biome Bird Observation data.	A Rocha Kenya ASFGA A Rocha Kenya NMK – Ornithology Section KWS NMK – Ornithology Section	National Museums of Kenya	By 30 th May	Data mobilization digitisation in progress.
Kenya Bird Map full protocol data and ad hoc bird records for Arabuko-Sokoke Forest and environs	Animal Demography Unit / ARK / NMK – Ornithology Section	Animal Demography Unit / SANBI	Monthly from 1 st March	Awaiting GBIF National Rep clearance for ADU to upload Kenyan data through the SANBI node.
Birds of Arabuko-Sokoke forest	NMK - Ornithology Section	National Museums of Kenya	By 15 th May	Data mobilization digitisation in progress.
Threatened Birds of Arabuko-Sokoke Forest Surveys	Arabuko-Sokoke Forest Guides Association	National Museums of Kenya	By 15 th August.	Data mobilization digitisation in progress.
Arthropod survey of Gede Ruins Forest	NMK – Entomology Section / ARK	National Museums of Kenya	By 15 th May	Data mobilization digitisation in progress.
Arthropod survey for elephant fence study, Arabuko-Sokoke Forest	NMK – Entomology Section / ARK	National Museums of Kenya	By 1 st May	Data mobilization digitisation in progress.





Nymphalid butterflies of Arabuko-Sokoke Forest	NMK – Entomology Section	National Museums of Kenya	By 15 th June	Data mobilization digitisation in progress.
Mammals of Arabuko-Sokoke Forest	Kenya Wildlife Service Arabuko-Sokoke Forest Guides Association	National Museums of Kenya / Kenya Wildlife Service	By 15 th June	Data mobilization digitisation in progress.
Bat Survey of Arabuko-Sokoke Forest and surrounding area	NMK - Mammalogy Section	National Museums of Kenya	By 15 th September.	Data mobilization digitisation in progress.
Small mammals of Arabuko-Sokoke Forest	KWS	Kenya Wildlife Service	By 15 th June	Data mobilization digitisation in progress.
Mammalogy Section, National Museums of Kenya, Rodent & Bat collection	NMK - Mammalogy Section	National Museums of Kenya	By 15 th August	Data mobilization digitisation in progress.
Bat roost survey, Arabuko-Sokoke Forest and surrounding area	NMK - Mammalogy Section	National Museums of Kenya	By 15 th May	Data mobilization digitisation in progress.
Plant List of Arabuko-Sokoke Forest	KWS / ASF Management Team	National Museums of Kenya	By 15 th September	Data mobilization digitisation in progress.
Vegetation and habitat sampling of Arabuko-Sokoke Forest	A Rocha Kenya NMK – Mammalogy Arabuko-Sokoke Forest Guides Association	National Museums of Kenya	By 15 th October	Data mobilization digitisation in progress.
Reptiles & Amphibians of Arabuko-Sokoke Forest	KWS / ASF Management Team KWS / NMK	National Museums of Kenya	By 15 th October	Data mobilization digitisation in progress.
Virtual Museum of Africa specimen collection	Animal Demography Unit / Citizen Scientists	Animal Demography Unit / SANBI	Monthly from 1 st March	Awaiting GBIF National Rep clearance for ADU to upload





				Kenyan data through the SANBI node.
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3.5.Examples of use of biodiversity data available through GBIF

Dataset	Data user	Data use	Date/time frame	Sources of verification	Notes
The first months of the project have been consumed in getting data mobilisation and digitisation up and running. Furthermore, key members of two of the main partners have either not been available or have left office and we have had to wait to get their input. A stakeholder / partner engagement workshop is planned for February where this will be specifically addressed and a plan for implementing the agreed outputs for the use of the biodiversity data will be drawn up.					

3.6.Events organized as part of the project

Full title	Organizing institution	Dates	Number of participants	Sources of verification
Introductory workshop for partners	A Rocha Kenya / Entomology Section, NMK	11 October 2017	6	<i>Refer to appendix I</i>
Introductory Data Clerk Training Workshop	A Rocha Kenya / Entomology Section, NMK	6 November 2017	15	<i>Refer to appendix II</i>
Follow-up Data Clerk Training Workshop	A Rocha Kenya	25 January 2018	8	<i>Refer to appendix III</i>





4. Updated calendar for the BID project implementation and evaluation period

The calendar should be completed in the same way as in the Full Project Proposal, but should include any expected changes. Provide reasons for any expected changes in section 4.1 'Explanatory Notes'.

Implementation period start date and end date (01/10/2017-31/12/2018)																
Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Notes
Early Progress evaluation & Reporting			X	X												
Mid-term evaluation & reporting							X	X								
BID Capacity Enhancement workshop – Data mobilization and publication (Participation is mandatory)					?	?										No project team member was able to attend this workshop, however an online training will be organized soon where one project team member will attend – date uncertain as we are waiting to hear from BID Secretariat on this.
BID Capacity Enhancement workshop – Data use (Participation is mandatory)					X											
Staff training	X	X	X	X				X								Training in digitisation and GBIF database use is well on course.
Stakeholder meeting	X	X		X		X		X		X		X		X	X	This activity is well on course except for the signing of MOUs which had to be postponed to February.
Facility development	X	X	X													Required IT facilities have been purchased and set up ready for use.
Data mobilisation			X	X	X	X	X	X	X	X	X	X	X			This activity is well on course.
Conservation										X	X	X	X	X	X	Using data outputs for conservation
Dissemination of results					X		X		X		X	X	X	X	X	The activity had to be postponed to February where the first forum to raise awareness about this project will take place.



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Evaluation period start date and end date (01/01/2018- 01/03/2018)				
Activity	1	2	3	Notes
Final financial and narrative reporting		X	X	Through a series of interviews with participants we will review and assess the achievements of the capacity enhancement efforts of the project.
Assessment of capacity building achievements	X	X		Random sampling quality checks will be performed on all the datasets prepared under this project.
Assessment of the quality and quantity of data mobilised	X	X		Interviews with key external stakeholders to this project to assess awareness of the project achievements & outputs and how these outputs have and will be put to use.
Assessment of the integration achievements or potential of this project	X	X		A short report will be produced and presented to all the participants of this project summarising the main findings of the evaluations, offering a series of key recommendations to consider taking forward.
Recommendations			X	



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5. Beneficiaries/affiliated entities and other cooperation

5.1. Relationship with project partners

A Rocha Kenya's research team and the project coordinator who is employed by A Rocha Kenya have a strong and respected working relationship with all partners involved in this project. The project coordinator enjoys unlimited support from both ARK's research team as well as lead scientists from NMK and KWS who are directly involved in the project. Furthermore, the PC has direct contact with the data clerks and Arabuko-Sokoke Forest Guides Association. Input from all these stakeholders has been quite pivotal in kick-starting the project. We have only had the one challenge that both the KWS lead people went on leave when the project started up and the key person was then shifted to a new position. The person stepping into that position is only on an interim basis but we are in the process of engaging and moving ahead with them. They are familiar with ARK from previous work we have done together so we are confident that there will not be a problem.

5.2. Links to other projects and actions

The project has appreciated the strong support from the GBIF node chairman whose participation in the BID Capacity Enhancement workshop was significant. Additionally, some of the data clerks especially ones from NMK have are building on prior knowledge acquired through a BID grant that is just being completed by the Entomology Section. Laban Njoroge, the lead for that project and Head of the Section, has been particularly helpful in assisting us in getting this BID project off the ground. The data clerk from Entomology had a head start due to already having been entering data for GBIF from their previous project.

6. Visibility

6.1. Visibility of the BID project

Short summary

A Rocha Kenya as the lead partner in this project has well established communication channels such as facebook and periodical newsletters. Project activities have been posted on Facebook and Twitter and will appear in blog stories as part of ARK's newsletter to it's global network. Now that the project is fully under way, a communications person is being taken on by ARK to promote the project, GBIF and the European Union. A new website is under construction for A Rocha Kenya where a page will be dedicated to the BID project with appropriate acknowledgement of GBIF and the EU.

Sources of verification

<https://www.facebook.com/aroachakenya/posts/10155784672923524>

<https://www.facebook.com/aroachakenya/posts/10155905828338524>

<https://www.facebook.com/aroachakenya/posts/10156042418928524>

Twitter:

<https://twitter.com/aroachakenya/status/953848669513617408>

<https://twitter.com/aroachakenya/status/918209417958457344>

<https://twitter.com/aroachakenya/status/933974609657024512>



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<https://twitter.com/aroachakenya/status/951832846246793216>

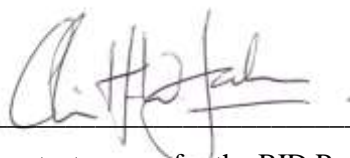
6.2. Visibility of the EU contribution

Short summary

The project team has been utilizing reporting templates provided by GBIF which bear the EU logo and acknowledgement that the project is funded by the European Union. We have ensured that project communications and key messages acknowledge EU as the funding agency for this project.

Sources of verification

Refer to Appendices I, II and III

Signature 

Name of the contact person for the BID Project: Colin Jackson

Date report sent by email in Word format to bid@gbif.org for pre-approval: 31st January 2018

Date report sent by post to GBIF Secretariat: 8/3/18





Appendix I – Report on introductory workshop

BID/GBIF Arabuko-Sokoke Data Digitization Project

A Rocha Kenya: BID-AF2017-0274-NAC

Introductory Workshop National Museums of Kenya, 11th October 2017

Present: Ornithology Section (NMK), Entomology Section (NMK), Mammalogy Section (NMK), Arabuko-Sokoke Forest Guides Association, A Rocha Kenya (ARK)

Absent: Kenya Wildlife Service

Apologies: Animal Demography Unit, Uni of Cape Town (ADU)

Aim: To introduce partners to GBIF – what it is, why it exists, what it aims to achieve, how it functions, to the basic data digitization process and format and understand the BID project within that context and how BID projects function.

We were introduced to the GBIF database, website and basic data format requirements by Esther Wangui (Zoology Dept. database manager), Laban Njoroge (NMK Entomology) then took us through how BID projects function from the experience he has from being involved in one already. Colin Jackson (ARK) then led the team through the proposal in detail, the workplan and then the budget to ensure that all are on the same page.

Main points noted through the workshop included:

- The Kenyan IPT and GBIF node is based at NMK. It would be the most appropriate node through which to upload data to the GBIF database. However, the ADU also hosts a GBIF node and it would be possible to use this.
 - Dr Wachala is the final stop through whom any data are uploaded to GBIF
- Data, once uploaded to the GBIF database, are able to be published in a 'Data Paper' which is an excellent way of getting the data out there and publications produced.
- NMK has been registered under the Global Registry of Biodiversity Registries – but A Rocha will need to also register in order to be able to submit its data to GBIF. *ACTION: Check with AR International*
- Publishing results is a key component for a GBIF / BID project – they are not interested in data sitting unused but are keen to push for all data to be published and therefore accessed and referenced.
- Sharing results – it was noted that for proper buy-in to the data and the project, it is critical for government to be involved from the start of the project and not just right at the end. An advantage is that we have KWS and NMK as government parastatals as partners, however it will be important to inform and involve local county government as much as possible
- There is a need to do the training of data entry clerks very soon – Entomology have a clerk who is already trained but the other partners need training. Esther Wangui would be able to do the training for us. Training will include:
 - Handling of specimens
 - Understanding definition of different data entry templates





- Use of data entry templates – practical data entry using actual datasets that each participant must come to the training with.
- Geo-locating records
- Understanding fully the process from assessing data, cleaning it, organising it, entering into correct format, checking quality, registering it and uploading to GBIF
 - *ACTION: ARK to identify data entry intern within next week.*
 - *Each partner to identify a dataset for trainees to use for uploading*
 - Agree on training date
- Going through the workplan, it was noted that the first report is at the end of December and that there is precious little time available between now and then without many other activities and demands. However, we have an advantage that there are some 'low hanging fruit' datasets which we can easily digitize and upload, namely species checklists for ASF.
- Publicity – Laban highlighted the importance of recording GBIF activities at all stages through taking photos and publicising the project through social media as well as websites and newsletters. *ACTION: ensure this workshop is posted*
- Hardware purchase – this is to happen immediately:
 - CJ to organise for purchase of computers. If possible to get separate ones for KWS and ASFGA as there would be challenges in sharing one.
 - Laban to organise the wifi router for all partners. Send budget to CJ so funds can be released.
- CJ to draw up a detailed workplan for the first three months so that all partners are clear about targets, deadlines and outputs for the first reporting.

Verification:

Facebook post: <https://www.facebook.com/aroachakenya/posts/10155784672923524>

Ends...



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Appendix II- Report on digitization training workshop

BID/GBIF Arabuko-Sokoke Data Digitisation Project

A Rocha Kenya: BID-AF2017-0274-NAC

Data Clerks Training Workshop

National Museums of Kenya (NMK), 6th November 2017

Present: Ornithology Section (NMK), Entomology Section (NMK), Mammalogy Section (NMK), A Rocha Kenya (ARK). Also present were seven other museum staff who attended to learn more about GBIF, its aims and how it functions together with the BID project.

Aim: To train BID/GBIF Project data clerks from partners based in Nairobi on data cleaning and geo-referencing.

The first training for the project 'Application of biodiversity monitoring data to resolve competing conservation management priorities in an East African forest landscape the case of Arabuko-Sokoke Forest was held on 6th November 2017 at the Invertebrate Zoology lab of the National Museums Kenya (NMK), Nairobi. The training had 15 participants including eight data clerks drawn from A Rocha Kenya, Mammalogy and Ornithology Sections of the National Museums of Kenya. The other participants were research technicians and curators from the participating NMK departments. The Chief trainer was Esther Wangui, a data base Manager from NMK who had undertaken GBIF database training previously.

The training involved three main parts. These included; an introduction to GBIF, cleaning data using Open refine software and Geo-referencing data using online Geo-locate software.

1. Introduction to GBIF

The training was begun by a brief introduction to the Global Biodiversity Information Facility function by Laban Njoroge. The participants were able to appreciate the GBIF as an 'open-data research infrastructure supported by the world's governments and aimed at providing people all over the world with access to data about all types of life on Earth'. Later on Dr. Francis Oguya a Senior Research Scientist from the National Museums of Kenya and also the GBIF Node Manager in Kenya, gave a brief talk on the GBIF as well.

2. Cleaning data using Google Open refine software

The second part of the training involved cleaning the data using Open Refine software, a powerful tool for dealing with 'messy' data and transforming it to the required standard for uploading to the GBIF database. The participants downloaded the software into their computers together with the Java software for Windows. They were then taught how to upload data into Open Refine, create projects, clean the data and finally export the cleaned files.

3. Geo-referencing using GeoLocate software

Thirdly, trainees were taught how to geo-reference locations of species collections or species occurrences using the online software, GEOlocate. They were imparted with skills on how to upload their data, confirm that geographical locations of species occurrences were accurate and export the files.





Verification:

Images of workshop:



Esther Wangui training BID-ASF data clerks together with other museum staff about GBIF data digitization process.





Appendix III- Report on data clerks follow up training at NMK.

BID/GBIF Arabuko-Sokoke Data Digitisation Project

A Rocha Kenya: BID-AF2017-0274-NAC

Follow up training for data clerks at the National Museums of Kenya on 25th January 2018.

Participant name	Partner Institution
Colin Jackson	A Rocha Kenya
Daniel Kazungu	A Rocha Kenya
Esther Wangui	National Museums of Kenya (NMK)
Jairus Anale	NMK- Entomology section
Robert Mulwa	NMK- Mammology section
Frank Juma	NMK- Ornithology section
Nelly Ogada	NMK- Ornithology section
Onesmus Kioko	NMK- Ornithology section
Laban Njoroge	NMK- Entomology section

Following the initial training conducted at the National Museums of Kenya (NMK) in November 2017, the workshop was organized to follow up on challenges that data clerks might have experienced in the course of their work. The forum also aimed at providing a platform to share lessons and further train data clerks on Global Biodiversity Information Facility (GBIF) templates.

It was clarified that A Rocha Kenya being the lead partner would act as the data hosting institution and therefore all data sets would be hosted within their servers before they are published.

Data clerks were requested to add extra columns on datasets that they are working on to enhance accountability and follow up in case data generated queries.

Datasets hosted on Kenya Bird Map Project (KBMP) will be automatically be uploaded to GBIF databases by the Animal Demography Unit (ADU).

Participants were facilitated to understand how Virtual Museum works and they can participate by uploading images of different kinds of specimens so that experts can identify them and add to a global set of collections.

Data clerks in all sections of the museum were facilitated to set up drop box accounts to be able to share hosting folders and share their data sets as well.





Daniel the BID project coordinator engaging data clerks during the workshop.



Appendix IV– images of some project activities



Entomology data clerk,
Jairus, at work digitizing
butterfly specimen data



Drawers of butterfly
specimens to be
digitised.



Entomology data clerk, Jairus, showing how many cabinets he has yet to digitize

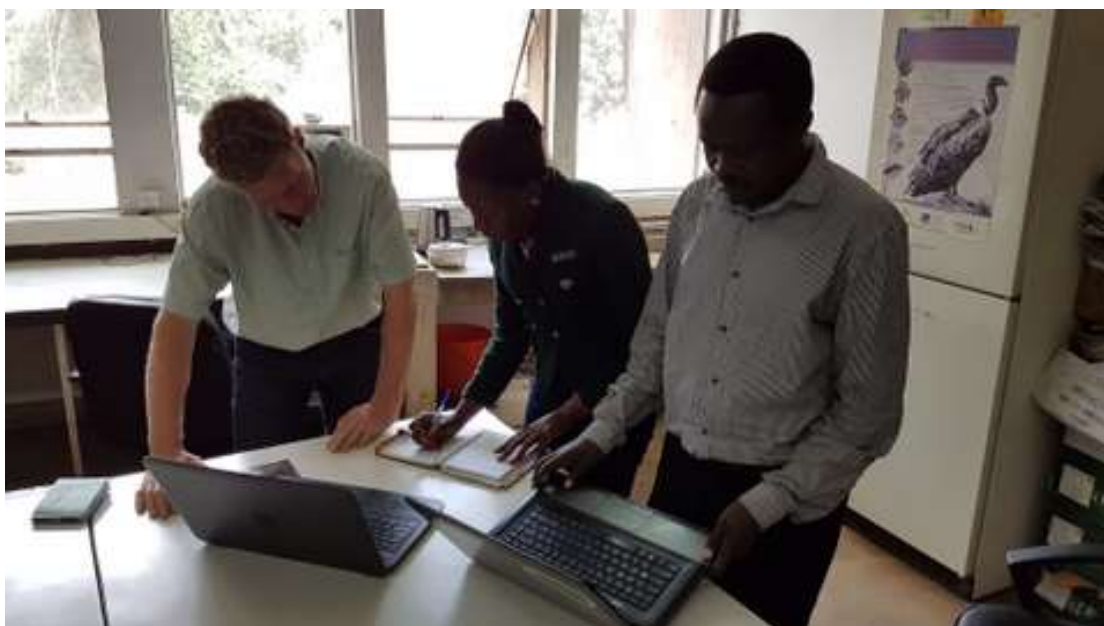


Rogers handing over a laptop to Kenya Wildlife Services resident researcher, Lynn Njeri.





Tray of Charaxes butterfly specimens being digitised.



Project Leader, Colin Jackson, discussing data digitisation issues with the data clerks, Nelly and Alex, from Ornithology Section, NMK.