

## MID-TERM NARRATIVE REPORT

*Guidelines on how to complete this report are included in italics.*

*Use the information included in your BIFA Full Proposal (reproduced in Annex 1 of your BIFA contract) as a baseline from which to complete this report.*

*Remember that this report will be made available on your project page on the GBIF website and therefore should not include any contact information, unless you have permission from all mentioned in the report that their contact information can be published.*

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## Project information

<b>Main contact person and role:</b>	Thien-Tam Luong, Project coordinator
<b>Institution/network/agency affiliation:</b>	University of Science, Vietnam National University Ho Chi Minh City, Vietnam
<b>BIFA Project ID:</b>	BIFA4_055
<b>Project title:</b>	A continuous data mobilization of Vietnam bryophyte and lichen collections
<b>Start date and end date of the reporting period:</b>	01/05/2019–30/04/2020
<b>Country in which the activities take place:</b>	Vietnam

## Executive summary

Following the impact and using the existing resource of the BIFA3\_032 project, this BIFA4 project proposal aims to continue mobilizing the remaining Vietnamese bryophyte and lichen collections held in other Vietnamese herbaria and in foreign countries. Visits to PC, EGR Herbarium in September-October 2019 are core activities to find out the real situation of Vietnamese specimens in the two large collections. Thousands of specimens have been searched and pulled out for databasing and digitizing by the staff in PC, EGR and PHH. Part of the collection have been sent out to worldwide experts for identification and verification of names.

Furthermore, the seminar and workshop “GBIF & Open data In Biodiversity study” was organized by the team, with collaboration of GBIF-France and University of Turku, Finland in July 2019. The event caught attention of people and showed that GBIF is an effective facility to publish data for biodiversity studies. After the workshop, the team hope that the university partners and other researchers will be able to digitalize, mobilize and manage their own database.

This mid-term report helps the readers, project partners and especially BIFA Coordination team understanding activities and results that have been carried out and achieved until the end of October (6 months since the start date). The report is a self-evaluation based on the project coordinator’s opinion with discussion with partners from the University of Turku and University of Science, HCMUS.

## Progress against expected milestones

Please indicate the status of the expected milestones as outlined in Annex 3 of the contract, at the time of mid-term reporting. Please provide links in the sources of verification.

In the event of unexpected delay(s), please provide detailed explanatory notes.

Expected milestones	Completed? Yes/No	Explanatory notes	Sources of verification
Gain certification at BIFA Capacity Enhancement Workshop <b>(Mid-term report milestone)</b>	Yes	Biodiversity Data Mobilization digital badges (Basic) for Vo Thi Phi Giao	Annex 1
At least one dataset has been published to GBIF.org <b>(Mid-term report milestone)</b>	Yes	Occurrence dataset: Vietnamese Lichenized Fungi Collection in Eger Herbarium (EGR)	<a href="https://doi.org/10.15468/wrmnjf">https://doi.org/10.15468/wrmnjf</a>

## Activities

Activity name	Expected deliverable	Contribution to goals listed in table 4.3 of the BIFA Full Proposal	Status of activity as of mid-term reporting Provide % complete and state either on-track or delayed	Explanatory notes, inc. new planned completion date if necessary	Source(s) of verification
BIFA Capacity Enhancement Workshop	Build and enhance knowledge & skill in data mobilization for project core member	Overall contribution to all project goals	Completed	Biodiversity Data Mobilization digital badges (Basic) for Vo Thi Phi Giao	Annex 1
Kick off meeting in PHH	Helps in planning, workflow and communication between Vietnamese partners	Overall contribution to all project goals, ensure the project running smoothly	Completed	The kick-off meeting was held in 14 <sup>th</sup> July 2019 at the Herbarium PHH, University of Science, VNUHCM.	Annex 3
Seminar & Workshop on “GBIF & open data in biodiversity study”	<ul style="list-style-type: none"> <li>About 20 participants from the host university and other universities, institutions.</li> <li>The workshop will introduce and provide basic knowledge and skills in data</li> </ul>	<ul style="list-style-type: none"> <li>Digitalization &amp; mobilization specimen data of Vietnamese bryophytes and lichens in foreign and local institutions</li> <li>Promote the use of GBIF among locals, widen the network; increase</li> </ul>	Completed	The seminar & training workshop was held from 15 <sup>th</sup> – 17 <sup>th</sup> July 2019 at the University of Science, VNUHCM.	Annex 2, 3, 4, 5, 6, 7

	<p>mobilization, focusing on using GBIF data for scientific research.</p>	<p>the number of GBIF publishers and users in Vietnam</p> <ul style="list-style-type: none"> <li>• First steps to a long-term aim for a checklist &amp; flora of Vietnam bryophytes &amp; lichens</li> </ul>			
Visiting Paris for digitizing and databasing specimens	<ul style="list-style-type: none"> <li>• A dataset of Vietnamese lichen specimens in EGR will be digitized and checked for identification</li> <li>• Loans and duplicates will be made to PHH for further works</li> </ul>	<ul style="list-style-type: none"> <li>• Digitalization &amp; mobilization specimen data of Vietnamese bryophytes and lichens in foreign institutions</li> <li>• Confirm identifications of specimens</li> <li>• First steps to a long-term aim for a checklist &amp; flora of Vietnam bryophytes &amp; lichens</li> </ul>	Visited	The team from PHH and Prof. Tamas Pocs (EGR) visited Paris Herbarium from 16 <sup>th</sup> –25 <sup>th</sup> September 2019.	Annex 8
Visiting Eger for digitizing and databasing specimens	<ul style="list-style-type: none"> <li>• A dataset of Vietnamese lichen specimens in EGR will be digitized and checked for identification</li> <li>• Loans and duplicates will be made to PHH for further works</li> </ul>	<ul style="list-style-type: none"> <li>• Digitalization &amp; mobilization specimen data of Vietnamese bryophytes and lichens in foreign institutions</li> <li>• Confirm identifications of specimens</li> <li>• First steps to a long-term aim for a checklist &amp; flora of Vietnam bryophytes &amp; lichens</li> </ul>	Visited. Specimens are on the way to Vietnam.	The team from PHH and Dr. Sanna Huttunen (TUR) visited Eger Herbarium from 26 <sup>th</sup> September–15 <sup>th</sup> October 2019.	Annex 9 <a href="http://biologia.uni-eger.hu/en/biology/science/herbarium-eger-egr--141/our-projects-142/c/databasing-the-vietnamese-collection-at-">http://biologia.uni-eger.hu/en/biology/science/herbarium-eger-egr--141/our-projects-142/c/databasing-the-vietnamese-collection-at-</a>

					herbarium-in-eger
Deadline for mid-term report – 31 October 2019	<ul style="list-style-type: none"> <li>• At least one dataset has been published to GBIF.org</li> <li>• Narrative and financial reports will be submitted to BIFA Coordination team</li> </ul>	<ul style="list-style-type: none"> <li>• Overall contribution to all project goals, ensure the project running smoothly</li> </ul>	Submitted		
Digitizing and databasing duplicates of lichen specimens from KoLRI and KH to PHH	A dataset of Vietnamese lichen specimens in EGR will be digitized and checked for identification	<ul style="list-style-type: none"> <li>• Digitalization &amp; mobilization specimen data of Vietnamese bryophytes and lichens in foreign institutions</li> <li>• First steps to a long-term aim for a checklist &amp; flora of Vietnam bryophytes &amp; lichens</li> </ul>	Delayed	Lichen specimens of KoLRI have been transferred to KH, and they have their own plan of digitization and publication of data. I propose to withdraw this activity from the BIFA4 project.	
Visiting TTN & PDU collection for digitizing and databasing specimens	Dataset of Vietnamese lichen specimens in TTN & PDU will be digitized and checked for identification	<ul style="list-style-type: none"> <li>• Digitalization &amp; mobilization specimen data of Vietnamese bryophytes and lichens in Vietnamese institutions.</li> <li>• Confirm identifications of specimens</li> <li>• First steps to a long-term aim for a checklist &amp; flora of Vietnam bryophytes &amp; lichens</li> </ul>	On track, to be planned in December 2019		

Continue digitizing and databasing specimens, updating identifications for specimens at PHH	Completed datasets of Vietnamese bryophytes and lichens specimens in DwC format	<ul style="list-style-type: none"> <li>• Digitalization &amp; mobilization specimen data of Vietnamese bryophytes and lichens in foreign and local institutions.</li> <li>• Confirm identifications of bryophyte and lichen specimens to improve the utility of the collections in taxonomic studies and research</li> </ul>	On track, updated identification for about 200 specimens of BIFA3_032 project		
Publishing the georeferenced species occurrence data to GBIF	Datasets of Vietnamese bryophytes and lichens specimens are published and available on GBIF	<ul style="list-style-type: none"> <li>• Publish the georeferenced species occurrence data in GBIF</li> <li>• First steps to a long-term aim for a checklist &amp; flora of Vietnam bryophytes &amp; lichens</li> </ul>	The first dataset is published (61 occurrences, about 5% of total).	Occurrence dataset: "Vietnamese Lichenized Fungi Collection in Eger Herbarium (EGR)"	<a href="https://doi.org/10.15468/wrmnjf">https://doi.org/10.15468/wrmnjf</a>
Deadline for final reporting – 30 April 2020	<ul style="list-style-type: none"> <li>• All deliverables have been produced</li> <li>• Sustainability and next steps have been documented</li> </ul>	Overall evaluation for all project goals	On track		

## Deliverables

### a. Data

Title of dataset	Data type (checklist/occurrences/ sampling event) <sup>1</sup>	Estimated number of records (specimens)	Status of dataset:  Published or % of digitization/pending publication and expected date of publication	Data holding institution agreed to publish its data via GBIF.org (Yes/No)	Explanatory notes	Source(s) of verification:  DOI or URL
Vietnamese bryophytes and lichens collection in PC	occurrences	4000-5000	Publishing gradually by MNHN staffs.	Yes	The dataset is incorporated in the main dataset Cryptogamy Collection at MNHN-Paris.	<a href="https://doi.org/10.15468/mywier">https://doi.org/10.15468/mywier</a>
Vietnamese bryophytes collection in EGR	occurrences	1500–2000	To be published by the end of the project	Yes	About 1500 Vietnamese specimens have been searched and pulled out from the main collection in EGR, and on the way to Vietnam.	
Vietnamese lichens collection in EGR	occurrences	60–70	Published	Yes	<b>Additional dataset:</b> Vietnamese Lichenized Fungi Collection in Eger Herbarium (EGR)	<a href="https://doi.org/10.15468/wr&lt;br/&gt;mnjf">https://doi.org/10.15468/wr mnjf</a>

<sup>1</sup> Dataset classes: <http://www.gbif.org/publishing-data/summary#datasetclasses>



Title of dataset	Data type (checklist/occurrences/ sampling event) <sup>1</sup>	Estimated number of records (specimens)	Status of dataset:  Published or % of digitization/pending publication and expected date of publication	Data holding institution agreed to publish its data via GBIF.org (Yes/No)	Explanatory notes	Source(s) of verification:  DOI or URL
Vietnamese lichens in TTN	occurrences	300	To be published by the end of the project	Yes		
Vietnamese lichens in PDU	occurrences	200	To be published by the end of the project	Yes		
Vietnamese lichens in KoLRI & KH	occurrences	500	Pending		Propose to withdraw this dataset from the BIFA4 project.	
Updated bryophytes and lichens collection in PHH	occurrences	500 more (10.000 in total)	To be updated by the end of the project	Yes	About 200 specimens (digitized and published in BIFA3_032 project) has been updated for identifications.	

**b. Other deliverables**

Name and type of deliverable	Status of deliverable  Provide % complete and on-track/ delayed	Explanatory notes	Source(s) of verification
Data paper about Vietnam bryophytes and lichens collections	On-track	Expected to be composed as part of the project	
Taxonomic articles, novelty finds when checking for identifications;	On-tracked & delayed	<p>Online key for the genera of Meteoriaceae and related genera in Vietnam is under preparation.</p> <p>The content of the taxonomic articles depends on the final identification. Because the large number of unidentified specimens and lack of bryologists, articles are expected to be published when finished identification, probably delayed after the deadline of the project,</p>	
A report for the workshop, with evaluation forms from the participants	Completed		Annex 2, 3, 4, 5

### Events organized as part of the project

Event title	Organizing institution	Date held / expected dates	Number of participants	Explanatory notes	Source(s) of verification
Seminar and Workshop “GBIF & open data in biodiversity study”	HCMUS	15-17 July 2019	43 (Seminar-outreach session) 20 (Workshop, practical training session)	More detail in the report.	Annex 2, 3, 4, 5, 6, 7 <a href="https://www.gbif.org/event/7FtvBdec8teVqXuxUQkRhW/gbif-and-open-data-in-biodiversity-study-scientific-seminar-and-training-workshop">https://www.gbif.org/event/7FtvBdec8teVqXuxUQkRhW/gbif-and-open-data-in-biodiversity-study-scientific-seminar-and-training-workshop</a>

## Calendar of activities

X – proposed calendar, Green – Actual/changed calendar

Activity	2019									2020				Notes
	M	J	J	A	S	O	N	D		J	F	M	A	
Mandatory attendance to the BIFA Capacity Enhancement Workshop			X											
Kick off meeting in PHH			X											Annex 2, 3
Seminar & Workshop “GBIF & open data in biodiversity study”			X											Annex 2, 3
Visiting Paris for digitizing and databasing specimens				X	X									Annex 8
Visiting Eger for digitizing and databasing specimens				X	X									Annex 9
Deadline for mid-term report – 31 October 2019						X								
Visiting TTN & PDU for digitizing and databasing specimens						X	X							
Digitizing duplicates of lichen specimens from KoLRI (& KH) to PHH						X	X							Postponed
Digitizing and databasing specimens, updating identifications for specimens				X	X	X	X	X	X	X	X	X		
Publishing the georeferenced species occurrence data to GBIF						X	X			X	X	X		
Deadline for final reporting – 30 April 2020												X		

## Explanatory notes

1. Kick off meeting, Seminar & Workshop “GBIF & open data in biodiversity study”, 15<sup>th</sup>-17<sup>th</sup> July 2019, at University of Science.
2. Visiting MNHN Herbarium, Paris for digitizing and databasing specimens (16<sup>th</sup>–25<sup>th</sup> September 2019)

During 8-days visits, with the kindly host of Dr. Sébastien Leblond and Lionel Kervran, the team have done two tasks:

- **Herbier Général:** We have checked 620 taxa (= names), pulled out 1064 specimens (on 580 sheets) of Vietnamese bryophytes. Among them, 285 specimens were loan to Turku for further identification. It is difficult to estimate the percentage of completion because we do not know exactly how many Vietnamese specimens in the Herbier Général of PC. My rough guest is 25-30% because the Vietnamese bryo-flora consists of ca. 800-900 moss species, 400-500 liverworts and hornworts (not name, i.e. not included synonyms). The 1064 pulled-out specimens and other Vietnamese specimens will be databased by the staff in PC after the visit. The dataset is incorporated in the main dataset Cryptogamy Collection at MNHN-Paris.
  - **Historical collection:** Besides the main Herbier Général, Vietnamese specimens also scatter over other collections for specific collector, such as P. Tixier. He was one of the major collectors in Vietnam during 1950s-1960s, and a large part of his collection remain untreated (i.e. in newspaper, no labels, etc.). We tried to revive his collection by sorting and looking up for localities, putting them in separated envelopes. This will ease and help the staff in PC to do the databasing afterwards. Especially, Prof. Pocs Tamas identified hundreds of epiphyllous liverworts collected by Tixier during the visit in PC and continue the work in Eger with loan specimens.
3. Visiting Eger Herbarium (EGR) for digitizing and databasing specimens (26th September – 15th October 2019):

The team have checked all the taxa (= names) available in EGR and pulled out all the specimens of Vietnamese bryophytes and lichens. Two third of the collection are already labelled and then, we scanned them to be computerized later in PHH and TUR. The other one third, without labelled, were looked up for collecting information. All the specimens are barcoded (about 1550 barcodes have been used) and divided into duplicates for PHH and TUR Herbarium. More than 1700 specimens were sent as gift and/or loan to PHH and TUR for further identification and digitization. Bryophytes specimens, including liverworts and mosses have been (and will be) updated identification by

Prof. Pocs Tamas, Dr. Sanna Huttunen (from TUR) and the bryologists in Helsinki Herbarium. Databasing and digitization will be done by PHH and TUR staffs when the loan/gift arrived.

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## Project communications and visibility

*Describe the plans and how the results of your project have been and will be communicated and shared with the project stakeholders and broader GBIF community.*

*Please also review the page describing your project available from <http://www.gbif.org/programme/bifa> and highlight any additional documents, events, news items or links that you would like to add to your page and provide links/attachments in the Annex.*

Activities of the project are written as the reports (Annex 2, 3, 8, 9) and can be added and shared on the GBIF-BIFA project's homepage.

The Seminar and workshop “GBIF & open data in biodiversity study” was twitted on Twitter

<https://twitter.com/gbiffrance/status/1150636616068689920>

<https://twitter.com/gbiffrance/status/1150708973944729600>

The visit to Eger Herbarium is shared on the news of the website of Institute of Biology, Eszterhazy Karoly University: <http://biologia.uni-eger.hu/en/biology/science/herbarium-eger-egr--141/our-projects-142/c/databasing-the-vietnamese-collection-at-herbarium-in-eger>

The project activities will also be shared and published in the Newsletter Biodivari of Biodiversity Unit, University of Turku in December 2019. After published, links to the databases will be shared with all project partners and made visible for public on University homepage, SEABAL Facebook page, etc.

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## Mid-term evaluation findings and recommendations for the remaining project implementation period

### Evaluation of the project activities

The Seminar and Workshop has been held and received positive feedback and satisfaction from participants (Annex 4 & 5). After the workshop, most of the workshop participant (15 out of 17) said that they would use GBIF's data for their studies and be able to perform related skills about biodiversity data. In this activity, we have received great support from GBIF-France, especially Mrs. Sophie Pamerlon, and University of Turku (Dr. Sanna Huttunen). It was a good chance to promote our project, bryophyte-lichen study in Vietnam as well as GBIF & BIFA. Personally, I consider that the event was success and attracted attention from the community.

Specimens in PC Herbarium will be computerized and published to GBIF by the staff in MNHN. The dataset is then incorporated in the Cryptogamy Collection dataset of MNHN-Paris. PHH and TUR staffs help in pulling out, geo-referencing and updating identification.

Specimens in EGR Herbarium, on the other hand, will be computerized and published to GBIF by the staff in PHH and TUR. Because some of the EGR specimens are divided into duplicates for PHH, some are duplicates for both PHH and TUR, we are still thinking the good solution for duplicates. Duplicates in TUR will be published to GBIF automatically via Finland National database. Duplicates in EGR and PHH will be published again separately for each herbarium own collection and therefore double (or sometimes triple) a record cannot be avoided? Advice from GBIF Secretariat is needed in this case.

We propose to postpone one activity (one dataset) “Digitization Vietnamese lichens in KoLRI” from the BIFA4 project because lichen specimens of KoLRI have been transferred to KH (Korea National Herbarium, Seoul), and they have their own plan of digitization and publication of data. Some specimens are actually duplicates from PHH Herbarium (already published in BIFA3 projects).

In summary, the project has mainly followed the original plan and met our aims and expectations. Deviations from original plan still assure the final results.

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## **Sustainability plans**

This project receives a great support from the community of bryologists and lichenologists around the world for taxonomic identification. Experts in ABL, BM, EGR, H, TUR (abbreviations follow Index Herbariorum code) have assisted us in identification and verified names for specimens since BIFA3 project. This great work helped to assure the scientific value of each occurrence. New records found during the project will be included in the upcoming manuscripts. The collaboration will continue after the project since there is still material that needs identification. The future publications will cite the project datasets, which can be monitored and measured from GBIF site.

Specimens in Paris herbarium will be computerized continuously by the staff there. Our visit in September 2019 to PC herbarium have helped to pull out as much as possible Vietnamese bryophytes specimens, but it is still just a small part of the total Vietnamese specimens in Paris, perhaps just one fourth. In this project, the lichen collection remains untouched as recommended by the staff in PC, because the collection is very old and fragile, which needs special care and longer time to work with. Verifying names and updating identification is always a big challenge for bryophytes and lichens specimens. More visits in the future are needed in attempt to digitize all of the Vietnamese specimens.



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## **Annex – Additional sources of verification**

*Sources of verification are for example links to relevant digital documents, news/newsletters, brochures, workshop related documents, pictures, etc.*

Annex 1\_badge\_174054\_all.pdf

Annex 2\_Seminar and workshop BIFA4.docx

Annex 3\_Seminar & workshop.pdf

Annex 4\_Evaluation forms\_filled.pdf

Annex 5\_Evaluation form\_result.pdf

Annex 6\_List of participants\_seminar.pdf

Annex 7\_List of participants\_workshop.pdf

Annex 8\_PC visit.pdf

Annex 9\_EGR visit.pdf