

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.

Contents

Project information.....	2
Executive summary	2
Progress against expected milestones	3
Activities	4
Deliverables.....	7
Events organized as part of the project.....	9
Calendar of activities	13
Project communications and visibility	14
Mid-term evaluation findings and recommendations for the remaining project implementation period	15
Sustainability plans.....	16
Annex – Additional sources of verification	17

Project information

Main contact person and role:	Chin Sung Chang
Institution/network/agency affiliation:	Seoul National University
BIFA Project ID:	BIFA4_015
Project title:	Data mining of historical herbarium specimens from the Korean peninsula (Phase II): Major old collections from North Korea
Start date and end date of the reporting period:	May 1, 2019
Country in which the activities take place:	April 30, 2020

Executive summary

Provide a brief explanation of the project and its implementation, the context and the approach taken for the mid-term evaluation, and a summary of progress of your project's original objectives. Also include any additional objectives that have been defined since the implementation of the project and explain why they've been added to the project's initial objectives. In the event of unexpected challenges which have prevented you to reach a planned project objective, please provide explanations and indicate how you plan to reach these objectives within the project implementation period and if you would like to receive the help of a specific project mentor. (Max. 350 words.)

The great majority of vascular plant species data in South Korea which is currently available as occurrence records in GBIF, has not been georeferenced (< 1%) and been classified as the orphaned dataset. Also, the qualified data from North Korea are insufficiently integrated to foster query-based inquiries now.

Many Japanese herbaria constitute a large fraction of North Korean botanical collections. Our priority of the second phase is to improve data quality and fill data gaps in North Korea and to focus on enhancing the completeness of published data and on improving the overall data quality. To be able to use this dataset for a process of validation and data cleaning, including a retrospective georeferencing process, are performed now. The current work and scope of this project integrated the BRAHMS software to allow queries of foreign herbaria historical records, generate specimen georeferenced data, and photo images. We continue to provide additional data about 34,000 historical collections collected by T. Nakai and others (TI), J. Ohwi and others (KYO), and V.L. Komarov (literature) before 1945 and about 20,000 herbaceous specimens at SNUA that provide access to a wealth of information on biodiversity and the spatial and temporal distribution of plants. Our project mobilized the specimens housed mainly at KYO (J. Ohwi, S. Kitamura and G. Koidzumi) and data presented by V.L. Komarov as the midterm activities (50%) and will complete the information about TI data until December, 2019. We digitized 80% of specimens at SNUA and will be uploaded until the final report.

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 (Mid-term report milestone)	Yes	One of our member attended the workshop last July	See the attached photos
At least one dataset has been published to GBIF.org (Mid-term report milestone)	Yes	Data from KYO and Komarov's collections have been published now	https://www.gbif.org/dataset/51fa6038-895d-4ed7-bf80-0754fa4d5f54



Activities

Please indicate the status of the activities as outlined in the BIFA Full Proposal (section 4.4), at the time of mid-term reporting.

The table below should be completed in the same way as in the BIFA Full Proposal, but should include information and updates on the status of each activity. Please indicate relevant source(s) of verification and provide links, or a copy of the source of verification mentioned if no links are available. Attachments should be provided in the Annex.

In the event of unexpected delay(s), please provide detailed explanatory notes and indicate new planned completion date(s) within the project implementation period.

In the event of any additional activities having being completed, please add rows as required.

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
Data capture	Input (20,000) of SNUA herbarium specimens. Specimens at SNUA that does not already have a barcode will receive one	Input (20,000) of SNUA herbarium specimens. Specimens at SNUA	80% and on-track without data cleaning process	20% of digitization will be completed no later than Dec. 2019 and be reviewed by the data cleaning till the end of this project	16,000 individual specimen records completed *1
Georeferencing	Data records [two datasets from TI, KYO, and a dataset (7,000) from literature of Flora	Data records [two datasets from TI & KYO, a dataset (7,000) from	80% and on-track about TI, KYO and Komarov data. 30% and on-track	Data cleaning required	See the attached map in the annex Figs. 9 and 10.

	Mandshuriae] and SNUA records with geographic coordinates will be georeferenced by Drs. Chang & Kim	literature of Flora Mandshuriae] and SNUA records with geographic coordinates will be georeferenced by Drs. Chang & Kim	about SNUA		
Nomenclatural annotation	Look up the currently accepted name of any taxon using our own checklist as the authority	Look up the currently accepted name of any taxon using our own checklist as the authority	95% and on-track. 5% of the data from Komarov's collections should be reviewed in terms of nomenclature	Some misapplied and synonyms will be resolved until the end of project	
Informatics	Images (ca. 1,000 specimens) from TI and KYO captured by digital camera and type images from the University of Tokyo Museum Type collections sites will be manually edited.	Images (ca. 1,000 specimens) from TI and KYO captured by digital camera and type images from the University of Tokyo Museum Type collections sites will be manually edited.	Images of type collections at TI (271) and those of specimens at KYO (387) were collected and uploaded. 60% of targeted images were uploaded, but more than 3,000-4,000 images will be uploaded.	3,000 photos of TI collections and 4,000 photos of KYO collections have been collected. Those will be uploaded until the end of project	Upload the URL of images into the dataset
Information	Project data and image	Data publication,	40%	This job will be done until the	https://www.gbif.org/dataset/51fa6038-

dissemination	files will be loaded in the GBIF website	journal, and research oral presentation		end of project.	895d-4ed7-bf80-0754fa4d5f54
Quality assurance	Any quality issues detected will be immediately fixed	Sustainability & Transparency	20% and on-track.	This job will be done until the end of project.	

*1 List of data by families from SNUA specimens

165	Apocynaceae	219	Crassulaceae	16	Malvaceae	59	Polygalaceae	645	Violaceae
17	Acanthaceae	32	Cucurbitaceae	95	Menispermaceae	686	Polygonaceae	433	Woodsiaceae
55	Adiantaceae	19	Cyperaceae	2	Myricaceae	129	Polypodiaceae	7	Zosteraceae
12	Aizoaceae	62	Davalliaceae	1	Najadaceae	7	Portulacaceae	1	Zygophyllaceae
34	Alismataceae	101	Dennstaedtiaceae	5	Nelumbonaceae	280	Primulaceae	2	Nyctaginaceae
43	Amaranthaceae	6	Droseraceae	11	Nymphaeaceae	3	Psilotaceae	29	Lythraceae
1044	Apiaceae	491	Dryopteridaceae	126	Onagraceae	50	Pteridaceae	27	Parnassiaceae
89	Aspleniaceae	1	Elatinaceae	47	Ophioglossaceae	1401	Ranunculaceae	34	Myrsinaceae
3004	Asteraceae	49	Equisetaceae	12	Orobanchaceae	326	Rubiaceae	33	Phytolaccaceae
89	Balsaminaceae	137	Geraniaceae	41	Osmundaceae	7	Ruppiaceae	16065	Total
141	Boraginaceae	11	Gleicheniaceae	54	Oxalidaceae	31	Santalaceae		
604	Brassicaceae	16	Hydrocharitaceae	445	Papaveraceae	4	Saururaceae		
1	Cabombaceae	16	Hymenophyllaceae	3	Pedaliaceae	261	Saxifragaceae		
432	Campanulaceae	3	Juncaginaceae	69	Phrymaceae	509	Scrophulariaceae		
600	Caryophyllaceae	1158	Lamiaceae	6	Piperaceae	53	Selaginellaceae		
1	Cercidiphyllaceae	17	Lentibulariaceae	1	Plagiogyriaceae	119	Solanaceae		
141	Chenopodiaceae	203	Liliaceae	93	Plantaginaceae	115	Thelypteridaceae		
40	Chloranthaceae	7	Loganiaceae	7	Plumbaginaceae	6	Trapaceae		
141	Clusiaceae	4	Loranthaceae	165	Poaceae	19	Typhaceae		
95	Convolvulaceae	50	Lycopodiaceae	6	Polemoniaceae	234	Valerianaceae		

Deliverables

This section should summarize the project deliverables as outlined in the BIFA Full Proposal (section 4,5), at the time of mid-term reporting. Please highlight any changes from the original plans.

If no result has been achieved on a specific point, please clearly indicate this and provide expected date of completion.

In the event of unexpected delay(s), please provide detailed explanatory notes and indicate new planned completion date(s) within the project implementation period.

In the event of any additional deliverables having being completed, please add rows as required.

a. Data

Details of datasets published and/or pending publication as an outcome of the project. The table below should be completed in the same way as in the BIFA Full Proposal but should include information and updates on the status of each dataset. Please provide links in sources of verification.

If the dataset is not yet published, please provide a detailed explanation, % of digitization and expected date of publication. Add rows as required.

Title of dataset	Data type (checklist/occurrences/sampling event) ¹	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
Japanese collectors (major collection during the Japanese annexation of	occurrences	27,000	50% digitized, Oct. 31, 2019 and 50% expected in January 2020	Yes	Images and other data will be uploaded until the	https://www.gbif.org/dataset/a6038-895d-4ed7-bf80-0754fa4d5f54

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

Title of dataset	Data type (checklist/occurrences/sampling event) ¹	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
Korea					end of this year	
V.L. Komarov (collections and primary occurrence data)	occurrences	7,000	Published, Oct. 31st		Collection sites are written as Chinese gazetteers, but will be translated into English until the end of this project	https://www.gbif.org/dataset/a6038-895d-4ed7-bf80-0754fa4d5f54
SNUA data	occurrences	20,000	80% of digitization without data cleaning	Yes	Data cleaning is essential and will be don till the end of this project	See Fig. 10.

b. Other deliverables

Describe other deliverables (e.g. publication of data papers, analysis, reports etc.) produced and/or planned to be produced/completed as part of the project. Please provide percentage complete and status of deliverable, together with an indicative dates/estimated time for completion.

Please provide links in the sources of verification. Attachments should be provided in the Annex.

Name and type of deliverable	Status of deliverable Provide % complete and on-track/ delayed	Explanatory notes	Source(s) of verification
Data papers		expected to be completed April 2020	
Major Japanese collections during the Japanese annexation of Korea from North Korea			
V.L. Komarov collections in 1897 from Korea		expected to be completed April 2020	

Events organized as part of the project

Please indicate the status of the events as outlined in the BIFA Full Proposal (section 4.6), at the time of mid-term reporting.

The table below should be completed in the same way as in the BIFA Full Proposal, but should include information and updates on the status of each event. Please provide links to any documents or web pages documenting the event(s) in the sources of verification. Attachments should be provided in the Annex

In the event of unexpected delay(s), please provide detailed explanatory notes and indicate new planned completion date(s) within the project implementation period.

In the event of any additional events having being completed, please add rows as required.

Event title	Organizing institution	Date held / expected dates	Number of participants	Explanatory notes	Source(s) of verification

Event title	Organizing institution	Date held / expected dates	Number of participants	Explanatory notes	Source(s) of verification
Red List Workshop	Institute of Botany, Beijing (PE)	August 26-28, 2019	60	IUCN Red List in the Korean peninsula	See the photo
20th anniversary of Korea National Arboretum	Korea National Arboretum (EABCN)	May 21, 2019	300	Checklist in eastern Asia	See the attached fig
2019 symposium of East Asia Biodiversity Conservation Network	Korea National Arboretum (EABCN)	Sept 24, 2019	50	Russian Far East flora checklist	See the attached fig
Global Strategy for Plant Conservation	Division of International Cooperation China Wild Plant Conservation Association (CWPCA)	Oct. 28-29, 2019	200	Eastern Asia's threatened flora using the regional or national Red List for the GSPC target 2	See the attached fig



Fig. 1. IUCN Red List Workshop in Beijing, China

2019 symposium of East Asia Biodiversity Conservation Network

The symposium of this year will be held on 24 September, and the title is "Contribution to achieving GSPC targets 1, 2 and 7 in East Asia" during the international conference "Lost World" in biodiversity studies: focus on the Earth's "blank spaces" of Botanic Garden Institute, Far East Branch, Russian Academy of Science.

Seven presentations in total will be given during the symposium, and each presentation will be 20 minutes long. It is recommended using 15 minutes to present and 5 minutes for discussion or questions. Acronyms in the program are as follows: T1 (GSPC target 1), T2 (GSPC target 2), and T7 (GSPC target 7).

Time	Program	Speaker
24 Sept.	EABCN symposium (as a session of the international conference "Lost World" in biodiversity studies)	
13:00-13:20	Opening and group photo session	Emcee: Dr. Il-Kwon Kim
13:20-13:40	[T1] Current progresses on databasing, monitoring, and conservation of vascular plants in Taiwan	Dr. Huan-Yu Lin
13:40-14:00	[T1] Contribution to the knowledge of plant systematics development in Northeastern Asia-the Russian Far East flora checklist	Dr. Chin-Sung Chang
14:00-14:20	[T1] A survey on the vascular flora of Mongolia (4 years)	Dr. Oyuntsetseg Batlai
14:20-14:40	[T2] The current situation and the conservation system in threatened species of Japanese conifers	Dr. Toshio Katsuki
14:40-15:00	Coffee break	
15:00-15:20	[T2] Current studies of rare plants in the Far Eastern region of Russia: additional criteria are needed for effective species conservation	Dr. Pavel Krestov / Dr. Elena Marchuk
15:20-15:40	[T2] IUCN Red list assessment of the Korean peninsula endemic vascular plants	Dr. Hui Kim
15:40-16:00	[T7] Red listed plants of China: status, issues and prospects	Dr. Haining Qin

Fig. 2. EABCN meeting in Vladivostok, Russia

 2019 KNA International Symposium	
Date: May 21(Tue.) – 22(Wed.) 2019 Venue: Korea National Arboretum (Pocheon-si, Gyeonggi-do) Organizer: Korea National Arboretum	
Attended by researchers from home and abroad, the International Symposium will be a meaningful venue to share related information and to discuss practical measures of recent issues...	
Day 1: May 21 (Tue.)	
09:00-09:30	Opening and welcoming remarks
keynote address(10:00 – 11:00, Audiovisual Room)	
10:00-10:30	Director General Lee You-Mi(Korea National Arboretum / Korea). Examining 100 years of Arboretums in Korea through Big Data Analysis.
10:30-11:00	Dr. Donald Rakow(Cornell Botanic Gardens / USA). The Future of Arboretums in 50 Years.
11:00-11:20	Coffee Break
Leaders Forum (Moderator: Dr. Kim Yong-Sik)	
11:20-12:10	Dr. Chipper Wichman(USA), Dr. Paul Meyer(USA), Dr. Huw Francis(UK), Dr. Suzanne Sharrock(UK / BGCI), Dr. Kim Yong-sik(Korea / Chollipo Arboretum).
12:10-13:20	Lunch
Session I (13:20 -18:20, Audiovisual Room)	
Topic: Outcomes of GSPC 2020 and Prospects for the Future (Moderator: Dr. Suzanne Sharrock)	
13:20-13:50	Dr. Maite Delmas(National Museum of Natural History / France). Progress in Implementation of the Global Strategy for Plant Conservation in France and Prospects for the Future.
13:50-14:20	Dr. Victoria Wilman(South African National Biodiversity Institute / South Africa). The South African perspective on implementation of the GSPC.
14:20-14:50	Dr. Ben McCarthy(Plantlife International / UK). Implementation of the Global Strategy for Plant Conservation in the UK – Progress and Challenges.
14:50-15:20	Dr. Hai Ren(South China Botanical Garden, CAS / China). Progress of Implementation on the Global Strategy for Plant Conservation (2011-2020) in China.
15:20-15:40	Coffee Break
15:40-16:10	Dr. Lilian Swee Lian Chua(Forest Research Institute Malaysia / Malaysia). Using Tropical Plants Sustainably and Equitably - the Malaysian Experiences.
16:10-16:40	Dr. Haining Qin(The Chinese Academy of Sciences / China). Red List in China(GSPC target 2).
16:40-17:10	Dr. CHANG Chin-Sung (Seoul National University / Korea). Database Taxonomy : Systematic Development of a Comprehensive Checklist in Eastern Asia as a Step towards a Completion of the GSPC target 1.
17:10-17:40	Dr. Shukheroo BAASANMUNKHI(Changwon University / Korea). Conservation Status of Rare Plants in Mongolia(GSPC target 2,16).
17:40-18:20	Discussion
18:20-20:00	Welcoming Dinner

Fig. 3. KNA International Symposium in Seoul, Korea

Agenda for World Forum on Global Strategy for Plant Conservation

● Session 3. IUCN Red List: assessment and application

Moderators: QIN Haining, Chin Sung Chang
1F An Lan Hall

- 08:30-08:50 From Raw Data to Guiding Conservation: How the IUCN Red List and KBAs are compiled and used
 ZHANG Jing / IUCN
- 08:50-09:10 Plant red listing and conservation guiding in China: Challenges and Perspectives
 QIN Haining / Institute of Botany, CAS
- 09:10-09:30 Conservation and development of China endangered plants
 ZHANG Zhixiang / Beijing Forestry University, Beijing China
- 09:30-09:50 Assessing the Red List Index for vertebrate species in China
 XU Haigen / Nanjing Institute of Environment Science, Nanjing, China
- 09:50-10:20 Coffee Break
- 10:20-10:50 Are we doing things right to save eastern Asia's threatened flora using the regional or national Red List for the GSPC target 2?
 Chin-sung Chang / Seoul National University, Korea
- 10:50-11:10 The survey and conservation of orchids in Myanmar
 Ye Lwin Aung & JIN Xiaohua / Forest Research Institute, Myanmar & Institute of Botany, CAS
- 11:10-11:30 Progress with getting plants included on the IUCN Global Red List
 Domitilla C. Raimondo / South African National Biodiversity Institute
- 11:30-11:50 Questions and answers

Fig. 4. GSPC Symposium in Dujiangyan of Sichuan, China

Calendar of activities

The calendar should be completed in the same way as in the BIFA Full Proposal (section 4.7) but should also clearly indicate and include any changes (e.g. use of colour-coding to indicate expected changes and/or delays). Please provide explanations for any changes in the “Notes” column and/or the explanatory notes section.

Activity	2019								2020				Notes
	M	J	J	A	S	O	N	D	J	F	M	A	
Activity: Data input/Barcoding of SNUA specimens	X	X	X	X	X	X							
Activity: Visiting TI(University of Tokyo Herbarium) by Chang & visiting KYO (Kyoto University herbarium) by Kwon and Cho (two graduate students)			X	X									Students additionally visited KYO besides TI
Mandatory attendance of a project team member to the BIFA Capacity Enhancement Workshop (expenses for attending the workshop are covered by the BIFA programme)			X										
Deadline for mid-term report – 31 October 2019 Mandatory milestones attached to the mid-term report: - Gain certification at BIFA Capacity Enhancement Workshop (see attached) - At least one dataset has been published to GBIF.org						X							
Activity: Georeferencing and data cleaning						X							
Activity: Information dissemination and preparation of data papers													Try to complete North Korea Checklist (90%) and put off publication till the end of project

Activity	2019								2020				Notes
	M	J	J	A	S	O	N	D	J	F	M	A	
Deadline for final reporting – 30 April 2020												X	
Mandatory milestones attached to the final report:													
<ul style="list-style-type: none"> - All deliverables have been produced - Sustainability and next steps have been documented 													

a. Explanatory notes

Two separate teams visited two Japanese institutes (KYO and TI) and acquired 4,000 images. Since it took more time to check one by one image with the uploaded data than expected, data cleaning and other additional work are much delayed. As was suggested, the North Korea checklist has been almost completed and will be published as a book as well as a data publication through the GBIF until the end of this project.

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.

I gave two presentations about the Red List using the GBIF data and also two presentations about the checklist in the international meeting or workshop. Through international cooperation, several versions of each country's checklist will be completed and be published through the GBIF.

One presentation about the current work will be presented coming Feb. 2020.

We keep discussing the GBIF data publication as the target 1 to 3 of the GBIF with the Korea National Arboretum and the EABCN project.



Biodiversity Data Mobilisation, Advanced Badge

This badge certifies that the wearer has sufficient understanding of the process of producing digital biodiversity datasets and publishing them on the internet, following internationally accepted standards, in particular those accepted by the Global Biodiversity Information Facility (GBIF). The wearer has successfully completed a workshop on this topic, which included the development of data mobilization strategies and the production, curation and publishing of datasets via the GBIF network.

Earned: Shinyoung Kwon
Issued by: Global Biodiversity Information Facility
Issued on: 01.10.2019
Expires on: 30.09.2022

Criteria: [Open criteria](#)

ISSUER

This badge is issued by the Secretariat of the **Global Biodiversity Information Facility (GBIF)**. Any questions in connection with this badge can be addressed to training@gbif.org or info@gbif.org.

CRITERIA

The criteria used to issue this badge are:

1. Having successfully completed a training course or workshop on the topic of biodiversity data mobilisation, and having completed all the required exercises during the course.
2. Having completed the final assignment as defined during the course/workshop and submitted the results before the deadline established.
3. Having obtained a minimum score of 3 out of 4 points in the assignments submitted, which were evaluated by the trainers. This evaluation is based on public course evaluation rubrics.

KNOWLEDGE AND SKILLS

This badge certifies that the wearer can successfully complete the following tasks:

1. Develop and assess biodiversity data mobilisation plans adapted to the context of specific projects, with a focus on the management of human and financial resources.
2. For any given biodiversity data source, recognize whether it can be digitized into any of the classes of datasets that can be published through GBIF, including metadata-only datasets, occurrence datasets, checklist datasets, and sampling-event datasets.
3. Apply best practices and international standards to produce a digital dataset based on the information contained in biodiversity-related objects.
4. Transform digital biodiversity data to comply with international standard formats for data publishing and provide data of the highest quality possible.
5. Apply the different data publishing mechanisms supported by GBIF. In particular using the GBIF Integrated Publishing Toolkit (IPT) and the Darwin Core Archive star schema to publish biodiversity data via GBIF through the use of standard core and extensions.

Fig 5. Acquired certification of Kwan, S.Y. at BIFA Capacity Enhancement Workshop

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

This section should cover for example:

- *An evaluation of the project activities by mid-term and their outputs/deliverables*
- *Comments on the project implementation, and its efficiency and effectiveness, strength and weaknesses etc.*
- *Any feedback on the project's relevance from the partners and stakeholders*

- *Indications and reasons for any changes which have been made to the project's original plans, and actions to follow-up*
- *The management arrangements for the project, including support from the GBIF Secretariat*
- *Areas of success to build on during the remaining project implementation period*
- *Any request for guidance and/or assistance in the form of a specific project mentor*

(Max. 300 words)

An evaluation of the project activities

1. A process of validation and data cleaning about SNUA herbarium specimens including a retrospective georeferencing process will be conducted within six months.
2. We visited two Japanese herbaria, TI and KYO and obtained additional photos about historical collections. We completed the labeling species name and collectin number for each photo taken. Completeness about TI and KYO data is currently medium. Nienty percent complied with completeness in terms of scientific names and gazetteers. Regarding the quality of records of SNUA specimens, spatial data will be improved using georeferencing work. It is important to manage carefully this dataset, promoting constant quality improvements.

Through the project, we were able to obtain more information about Nakai, Ohwi, Kitamura, Koidzumi, Sato and other collections from Japanese herbaria. This BIFA project experience makes us publish the remainders of the SNUA dataset and another historical dataset about North Korea soon.

Sustainability plans

Please provide a description of how the partners involved will build on the results of this project in their future work. This could include future collaborative activities, such as plans to complete any unfinished project activities and how the future impact of the project could be monitored and/or measured. (Max. 200 words).

A target checklist about North Korea is almost completed and will be published by our group with the help of the Korea National Arboretum before the end of this project. Another important context for our project is to solve the conflicting scientific names currently used among the four countries. The study undertaken in terms of taxonomical comparison for four years (2016-2019) about China, Japan, far eastern Russia, Taiwan with the research funds from Korea National Arboretum are currently undertaken to take into account the particular inconsistencies among countries. With regards to the conversion and validation of taxonomic information (e.g. scientific names) the international network with Russia, China, and Taiwan are in progress and will be discussed

coming December through the EABCN which is organized by the Korea National Arboretum.

Our project seeks to improve the information available to other countries, in turn helping them to monitor and advance progress. We would like to develop to meet the capacity needs for mobilization, discovery, and use of biodiversity data for research and policy here.

After completing this second project, we will seek external funding sources to integrate and mobilize our target data set from other herbaria (PE and IFP, VLA) and present the distribution map of species distributed in eastern Asia. Overcoming these gaps in biodiversity information will be helpful to meet the GSPC new target 1 of post 2020.

Annex – Additional sources of verification

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

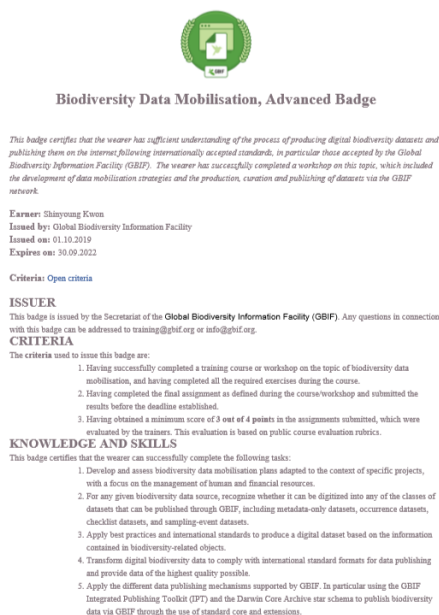


Fig 5. Acquired certification at BIFA Capacity Enhancement Workshop

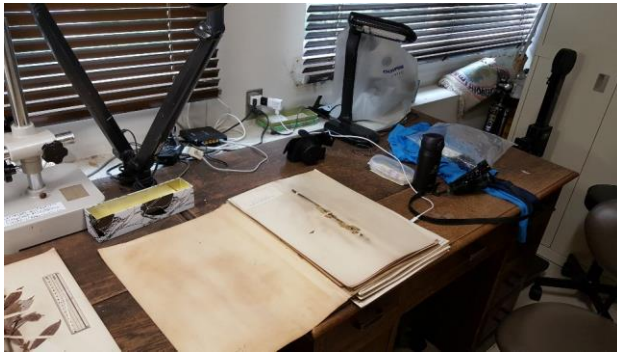


Fig. 6. Working at TI in July, 2019



Fig. 7. Working at KYO in August, 2019



Fig. 8. Join the workshop held in Vietnam in July, 2019

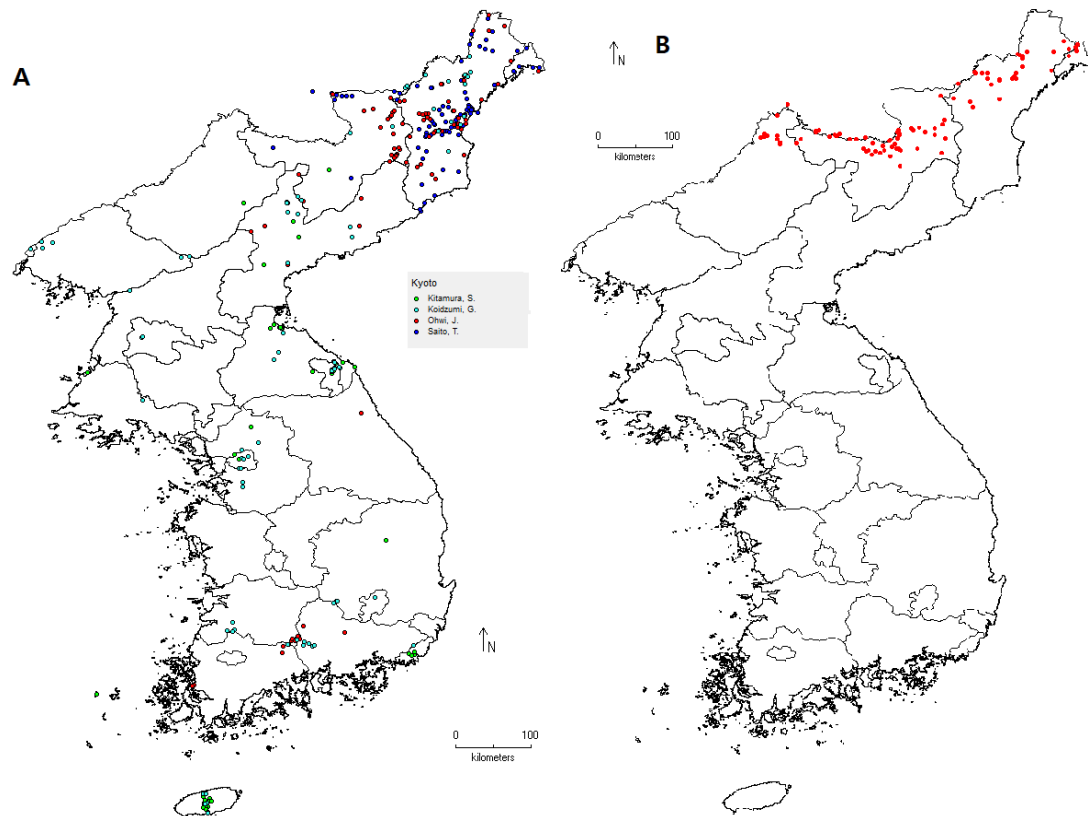


Fig. 9. Ohwi, Kitamura, Koidzumi, Sato and others at KYO (A) and Komarov's occurrence data published in *Florae Manchuriae*(B).

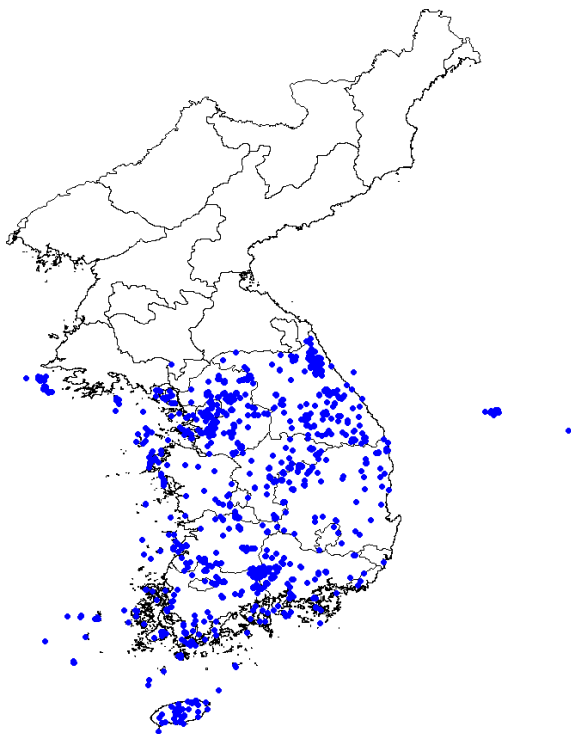


Fig. 10. Georeferencing of SNUA specimens without data cleaning.