

# Data mobilization of Indonesian butterfly collections at Museum Zoologi Bogor, Indonesia (year 2: family Pieridae, Riodinidae, and butterfly type specimens)

Programme:BIFA Project ID: BIFA5\_018 Project lead organization:Research Center for Biology, Indonesian Institute of Sciences Project implementation period:15/7/2020 - 30/9/2021 Report approved: 1/3/2021

### **Narrative Midterm report**

### **Executive Summary**

The BIFA5 018 project started on 4 August 2021, and we had to adjust our working days during this COVID-19 pandemic. Most research staff have been allowed to come to office 2 days a week and technicians including our hired assistants have been allowed 3 days a week. The limitation also include the work hours, from previously 7.30 - 16.00 into 8.30 - 15.00 (flexible time) to reduce the risk of fatigue working in the closed, air-conditioned room at the insect collection room. All health protocols to work safely have been followed. The work has been somewhat affected by this pandemic but we have made good progress. As of 29 January 2021, we have documented almost 3,800 specimens of the family Pieridae deposited at the insect collection room of Museum Zoologi Bogor. This number includes specimens of genera Appias, Belenois, Catopsilia, Cepora, Gandaca, Ixias, Pareronia, Saletara, and part of Delias. I have done all identifications and verifications of these specimens into valid species and subspecies. Prof. Osamu Yata confirmed a few doubtful identifications. All processes of specimen handling were undertaken. Information on the label data was documented into data sheet. Photos of upperside and underside of male and female representatives of each species were taken. Interpretation of label data was conducted later on, including georeferencing the locations. Data checking and data mapping were conducted afterwards. Datasets were then prepared to be uploaded to GBIF. Starting January 2021, we have added 2 days of working from home to do interpretation, georeferencing, specimen photo trimming, and data checking and cleaning as we have accummulated more data. We anticipate the completion of this project to be September 2021 with the current pandemic trend in Indonesia.

# **Progress against milestones**

# Has your project published at least one dataset through GBIF.org?: Yes

#### **Dataset published:**

Dataset	DOI
Dataset of Catopsilia butterfly specimens deposited at Museum Zoologi Bogor, Indonesia	https://doi.org/10.15468/jdyzwj
Dataset of Gandaca butterfly specimens deposited at Museum Zoologi Bogor, Indonesia	https://doi.org/10.15468/ema799
Dataset of Belenois butterfly specimens deposited at Museum Zoologi Bogor, Indonesia	https://doi.org/10.15468/3uefmn
Dataset of Pareronia butterfly specimens deposited at Museum Zoologi Bogor, Indonesia	https://doi.org/10.15468/5petb6
Dataset of Cepora butterfly specimens deposited at Museum Zoologi Museum, Indonesia	https://doi.org/10.15468/fke5cd

# Has at least one member of your project team received certification following the BIFA capacity

## enhancement workshop?: Yes

#### Name of the workshop participant: Djunijanti Peggie

Certification obtained: Basic Badge

#### **Report on Activities**

#### Activity progress summary

Preparation has been conducted for insect drawers, unit trays, and glassine envelopes. More envelopes will be made as we have so many unmounted butterfly specimens that will be transferred into new envelopes, complete with all the labels and assigned MZB Lepi numbers and associated QR codes. I have been working on curating the specimens one by one to identify all specimens to valid species and subspecies. After getting specimens identified, the hired assistants do the registration of specimen data according to the available label. Photographs of upperside and underside of butterfly specimens were taken for selected representatives of each species. Further steps of data management were conducted for the genera of pierid butterflies that had been recorded. Despite the pandemic, we have managed to work in the collection room, with extra caution using face masks and face shield and maintaining safe distance. Other genera will be dealt with after this midterm including specimens of Riodinidae and MZB's butterfly type materials.

The workshop will be postponed toward the end of the project, perhaps in August 2021. If conditions do not improve much with pandemic, then online workshop will be held.

#### Completed activities

### Activity name: Preparation

Description: Preparation of insect drawers, unit trays, and envelopes were done. Start Date - End Date: 3/8/2020 - 4/12/2020 Verification Sources: https://docs.google.com/document/d/1tHFV3rt15rmOpkv5\_Ta1J1CmIa0N319lwW3khgljSdc/edit? usp=sharing

# Activity name: Curatorial work

Description: I have been doing all the identication and validation of the specimens to species and subspecies level. Start Date - End Date: 3/8/2020 - 29/1/2021 Verification Sources: https://docs.google.com/document/d/1rZ0jpYZXiUh4776IR\_PHanoc9AE\_56CXsA-3nzQ9DaQ/edit? usp=sharing

# Activity name: Specimen handling and recording

Description: Data on each specimen label was documented as spreadsheet in Excel program. Start Date - End Date: 5/8/2020 - 29/1/2021 Verification Sources: https://docs.google.com/document/d/1sw878eXs81v5A\_i2N2OVMeyXTJghfKkUsQtACu-h8b8/edit? usp=sharing

# Activity name: Data management

Description: Data based on specimen labels were interpreted and georeferenced to prepare cleaned data for publishing to GBIF. Start Date - End Date: 20/8/2020 - 29/1/2021 Verification Sources: https://docs.google.com/document/d/1iFQS1Y-OC0WxJZzxqxKfgpXdY6e1BnhlLZ\_4-aDoeRU/edit?usp=sharing

#### **Report on Deliverables**

#### Deliverables progress summary

Datasets of specimens are arranged according to the genera of butterfly families. We have documented about 3,800 Pieridae specimens of 9 genera: Appias, Belenois, Catopsilia, Cepora, Gandaca, Ixias, Pareronia, Saletara, and parts of Delias. Five datasets were uploaded to GBIF. Other

datasets will be published after checking and mapping the data. Leaflet will be produced prior to the workshop and draft of manual book has been made. Catalog of specimen data will be produced / printed at the end of the project.

Progress towards deliverables

#### **Communications and visibility**

Data generated from specimen labels give information about the distribution, temporal and spatial, which in turn can also be used to assess species abundance and conservation status. We are looking for known distribution of the species and occasionally we came across a specimen bearing label of other locality. In this case, we need to communicate with our partners to track down the distribution range based on specimens deposited at Naturkunde, Naturalis, or other museums. We are seriously looking into participation from butterfly enthusiasts to complement the distribution data on butterfly occurrences and will submit a proposal to focus on this.

### Monitoring and evaluation

### Monitoring and evaluation findings

We have managed to work effectively with adjustment to pandemic condition. The same workflow was followed. We have documented over 3,800 specimens of Pieridae specimens of 9 genera: Appias, Belenois, Catopsilia, Cepora, Gandaca, Ixias, Pareronia, Saletara, and parts of Delias. Five datasets of 1,931 specimens were uploaded to GBIF. Datasets of Appias, Ixias, Saletara are in the process of data checking, cleaning, phototaking and will be published as soon as they are ready. Other specimens of Pieridae, Riodinidae, and type specimens of butterflies will be handled after this midterm. At the beginning, we could only work 2-3 days a week so the progress of documenting specimens were rather slow. Starting January 2021, we have accummulated enough data to be handled home for data interpreting, georeferencing, data checking, data cleaning, photo cropping, and preparation to publish. All data records are saved in the computer, external HDD, institution's data server, and cloud Google Drive. Due to the limitation of only 15 GB of Cloud, we saved only the data, not the photos to the Cloud.

# Impact of COVID-19 pandemic on project implementation

Despite the COVID-19 pandemic, I reckon that we have managed to work well according to adjusted working time at the office. I have participated in two symposiums (i.e. the GBIF Asia Virtual Summit on 20 July 2020 and the 2020 Entomological Collections Network- ECN Virtual Meeting) to give presentation of working on this data mobilization project during pandemic.

From August until December 2020, we could only work 2-3 days a week. Starting January 2021, we have accummulated enough data to be handled home for data interpreting, georeferencing, data checking, data cleaning, photo cropping, and preparation to publish. I have projected that the work can be completed by September 2021.

From the beginning, I have informed the hired assistants that they would be paid prorated honorarium according to the workload to prolong the period of completion if needed, to comply with the work regulation and limitation due to pandemic. Though the salary is below regular minimum standard, they are happy that they can still work and earn money. I am relieved also that we have anticipated the arrangement of prorated salary so that we do not have to run out money before all work can be completed.

GBIF leads the Biodiversity Information Fund for Asia (BIFA), a programme funded by the Ministry of the Environment, Government of Japan. The programme provides supplementary support for activities addressing the needs of regional researchers and policymakers through mobilization and use of biodiversity data.

