

Preliminary checklist and occurrences of arthropod's selected groups (Cerambycoidea, Formicidae, Opiliones, Araneae, Odonata and Mantodea) from the Caribbean of Colombia.

Programme:BID

Project ID: BID-CA2020-036-INS

Project lead organization:Universidad del Atlantico

Project implementation period:1/8/2021 - 30/6/2023

Report approved: 4/7/2022

Narrative Midterm report

Executive Summary

This project has accomplished satisfactory results until now. We currently have one checklist published through GBIF (Cerambycidae of the Caribbean of Colombia), and one dataset of occurrence of the same group is currently under data quality revision. As for the other groups, we have gathered a lot of information, which is currently under digitalization and formatting, and we expect to publish the datasets on time. We faced many inconveniences in the transfer of the funds due to incorrect bank details provided by our institution. This problem got worse under the COVID-19 pandemic because all administrative processes in the university were stopped for a while, making the communication difficult. However, we overcame this problem by completing the datasets performing revisions to our local collection, as well as using personal money for travel purposes, expected to be refunded when the funds are available. Also, we held monthly meetings where each member of the project presented their progress and possible problems, which we analyzed and provided solutions. However, we were not able to execute the courses because of the lack of budget, so we decided to postpone it until we have the funds available. Recently, the university bank received the funds, and it is currently under legalization processes. We expect to receive the funds next month so we can finish our activities and deliverables on time.

Progress against milestones

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

Dataset published:

Dataset	DOI
Cerambycidae from the Caribbean region of Colombia	https://doi.org/10.15472/vaaef4

Has at least one member of your project team received certification following the BID capacity enhancement workshop?: Yes

Name of the workshop participant:Miguel Stand

Certification obtained: Basic Badge

Report on Activities

Activity progress summary

The progress in the activities detailed below had been affected due to problems in the transfer and

reception of the funds of the project, which were not received because the bank details provided by the university were incorrect. This problem was aggravated because of the COVID pandemic, all processes in the university were stopped, and when they returned, it was not presential, making the contact with the financial department particularly hard. In this matter, some activities have been carried out partially, and we were not allowed to fully accomplish the proposed schedule. However, the project funds were received recently and it is currently under internal processes of the University to legalize it and make it available for its usage. We expect the funds to be available next month and then, we will re-start all delayed activities. In this matter, none of the activities were finished, but they are all in progress.

Progress and/or delays for all the proposed activities are detailed below:

Revision of national collections of arthropods (Araneae, Cerambycoidea, Formicidae, Mantodea, Odonata and Opiliones): The revision depends mainly on the funds in order to travel to entomological collections in Colombia, so this activity was strongly affected by the transfer problem. However, few trips were performed with personal funds, to be reimbursed when the project funds are available. We have revised the collection of the Universidad del Atlántico for all groups (Araneae, Cerambycoidea, Formicidae, Mantodea, Odonata and Opiliones). Other collections had also been revised like the collection of Universidad de Los Andes (for Odonata), the Biological Resources Research Institute "Alexander von Humboldt", Villa de Leyva, IAvH (for Araneae and Cerambycoidea). Lastly, for Cerambycoidea was also revised the collections of the following institutions: Pontificia Universidad Javeriana, Bogotá (MPUJ), Universidad Nacional, Bogotá (ICN and UNAB), Colombian Corporation for Agricultural Research, Mosquera (CTNI). As we put the revision to end in February of 2023, we expect to still finish this task in the initially proposed dates.

Preparation and publication of checklists of regional species of the studied groups from the Caribbean of Colombia (Araneae, Coleoptera, Formicidae, Mantodea, Odonata and Opiliones): As this activity depends entirely on the revision of collections, all gathered information is currently under preparation (digitalization and formatting), and only when the revisions are finished it will be published. As for the groups, in Odonata we currently have digitalized 100% of the information from the Universidad de los Andes and the Universidad del Atlántico. As for the other groups (Araneae, Formicidae, Mantodea and Opiliones), we have digitalized 100% of the Universidad del Atlántico biological collection, gathering many species for those groups (see deliverables). However, we only registered specimens with collection codes, so we expect to increase the number of species once collection codes are assigned to specimens that are currently entering the collection. Lastly, in order to fulfill the requirement for the midterm report of at least one list published, for Cerambycoidea we published the first checklist of Cerambycidae of the Caribbean of Colombia. In the checklist submitted, two subfamilies, 34 tribes, 89 genera and 127 species are reported. For all species the distribution in the Caribbean departments was indicated. However, this is the first version of the checklist and we will update it when more revisions are performed.

Preparation and publication of occurrence data of regional species of the studied groups from the Caribbean of Colombia (Araneae, Cerambycoidea, Formicidae, Mantodea, Odonata and Opiliones): As for the checklist, this activity depends on the revision of collections. For all groups, the information gathered in the collections named above are under preparation (digitalization and formatting). Currently, we have digitized 20 records for Araneae and Formicidae, 12 for Mantodea and 16 for Opiliones. All this data belongs to the Universidad del Atlántico entomological collection, and these numbers will increase when more revisions to other collections are performed. As for Odonata, we have all occurrence data from the Universidad del Atlántico and Universidad de los Andes digitized, pending to be formatted. Lastly, in Cerambycoidea we sent a first version with 542 occurrences records, which is currently under quality review by BID Regional Project Support Team, and a second version with 1153 occurrences is under preparation to update the first version once it is published.

Digitalization and publication of compiled data, from national collections, of the Caribbean arthropods studied (Araneae, Cerambycoidea, Formicidae, Mantodea, Odonata and Opiliones): This activity is not suffering any delays. We are currently compiling the information found in the different visited collections. We expect to publish our results in indexed journals only when the information is available through GBIF.

Course "The wonderful world of arachnids": The course was supposed to be carried out in June of 2022. However, due to the delays in the transfer of the funds, we had to postpone the date of this course. The course will take place in a private school located in Barranquilla, Colombia. The logistics for the event are ready and we expect to have it in November of 2022, once the funds are available to use it.

Course "Introduction to entomology": In the case of the introductory course on entomology, it was supposed to be carried out in June of 2022. But because of the funds problem, we were forced to

postpone it. The course will be offered in the Universidad del Atlántico. The logistics for the event are ready and we expect to have it in November of 2022, once the funds are available to use it.

Workshop “SIB Colombia: cómo acceder a nuestra biodiversidad”: The workshop is estimated to be at the end of the project, after all data is gathered, published and available. In this matter, there are no current delays on the development of this workshop.

Completed activities

Report on Deliverables

Deliverables progress summary

The proposed deliverables in this project are lists of occurrences, checklists and richness maps for all groups (Odonata, Mantodea, Cerambycoidea, Formicidae, Opiliones and Araneae), as well as a webpage of Cerambycoidea from the Caribbean of Colombia. Regarding the lists of occurrences, progress has been estimated in 100% for Cerambycoidea (50% currently under data quality review for publication), 10% for Formicidae, 100% for Odonata, 10% for Mantodea, 50% for Opiliones and 20% for Araneae. Regarding the checklists, progress has been estimated in 40% (already published in the first version) for Cerambycoidea, 15% for Formicidae, 80% for Odonata, 10% for Mantodea, 50% for Opiliones, 10% for Spiders. For those lists of occurrences and checklist, the publication is estimated between July 2022 and May 2023, while for the richness maps the publication is estimated between February and May 2023 (details above). The website of “Cerambycoidea del Caribe colombiano” presents an advance of 30% and the publication is estimated in June 2023. Even with the problems we faced with the financial department of the institution Universidad del Atlántico that caused delays in the transfer of the funds and the performing of the activities, we are on schedule for all deliverables, and we managed to publish our first dataset in the initial timeline. Now that we have the funds, we expect to increase the progress percentage, to finish all tasks on time, update the dataset already published and publish the information of the other groups.

Progress towards deliverables

Dataset deliverables

Checklist of the species of longhorned beetles (Cerambycidae and Disteniidae) in the Caribbean of Colombia

Dataset type: Checklist

Dataset scope: It will be generated a list of the species of Cerambycidae and Disteniidae present in the Caribbean of Colombia with their distribution for department. Data on the temporal and altitudinal distribution will also be taken.

Number of records: 127

Data holder: National collections

Data host institution: National collections

% complete: 40%

Status update: Collections in Atlántico, Bogotá and Boyacá had been revised allowing the identification of Cerambycidae from the Caribbean of Colombia, however, there is so much more material than we expected so further visits are needed to complete the revision. Currently 127 species are reported to occur in the Caribbean, and we expect to find many more with the completed revision of the collections we already visited and with visit of other collections in Magdalena, Bolívar, Sucre and Antioquia.

DOI: <https://doi.org/10.15472/vaaef4>

Expected date of publication:

Checklist of the Formicidae in Atlántico and Montes de María (Bolívar)

Dataset type: Checklist

Dataset scope: It will be generated a species list of Formicidae from the department of Atlántico and the mountain range “Montes de María” in Bolivar. New reports generated in this work will be listed as well as the previous reports in literature.

Number of records: 20

Data holder: National collections

Data host institution: National collections

% complete: 15%

Status update: The collection of the Universidad del Atlántico has been revised, allowing the identification of Formicidae from the department of Atlántico and the mountain range “Montes de María” in Bolivar, however, we have found much more material from other localities in other departments of the region. Currently, 20 species are reported between the Caribbean department of

Atlántico and Bolívar, and we hope to find many more with the complete revision of the collections in Bogotá, Boyacá, Córdoba, Valle del Cauca and Antioquia.

DOI:

Expected date of publication: 2022-11-30

Preliminary checklist of Odonata from the Colombian Caribbean.

Dataset type: Checklist

Dataset scope: It will be generated a species list of Odonata from the Colombian Caribbean with their distribution for each department. New reports generated in this work will be listed as well as the previous reports in literature.

Number of records: 20

Data holder: National collections

Data host institution: National collections

% complete: 80%

Status update: Collections in Universidad del Atlántico and Universidad de los Andes had been revised allowing the identification of odonates from the Caribbean of Colombia. So far, most of the records belong to the department of Atlántico and La Guajira, it remains to review 30% of the collection of the Universidad del Atlántico.

DOI:

Expected date of publication: 2022-11-30

Preliminary checklist of Mantodea in the Caribbean of Colombia.

Dataset type: Checklist

Dataset scope: It will be generated a list of the species of Mantodea present in the Caribbean of Colombia with their distribution for each department. New reports generated in this work will be listed as well as the previous reports in literature.

Number of records: 12

Data holder: National collections

Data host institution: National collections

% complete: 10%

Status update: The Collection of the Universidad del Atlántico has been reviewed, allowing the identification of Mantodea from the Caribbean region, however, there must be much more material in other collections from other departments of the region, so visits are needed to complete the review. Currently, 12 species are reported in the department of Atlántico and Bolívar, and we hope to find many more with the complete review of other collections.

DOI:

Expected date of publication: 2023-01-31

Preliminary checklist of Opiliones in the Caribbean of Colombia.

Dataset type: Checklist

Dataset scope: It will be generated a list of the species of Opiliones present in the Caribbean of Colombia and it will be provided distribution information for each department.

Number of records: 16

Data holder: National collections

Data host institution: National collections

% complete: 50%

Status update: The collection of the Universidad del Atlántico had been revised allowing the identification of Opiliones from the Caribbean of Colombia. So far, all the records belong to the department of Magdalena.

DOI:

Expected date of publication: 2022-12-31

Preliminary checklist of spiders in the Caribbean of Colombia.

Dataset type: Checklist

Dataset scope: It will be generated a list of the species of spiders present in the Caribbean of Colombia and it will be provided the distribution information for each department.

Number of records: 10

Data holder: National collections

Data host institution: National collections

% complete: 10%

Status update: Collections in Universidad del Atlántico, Universidad Nacional and Instituto Von Humboldt had been revised allowing the identification of Spiders from the Caribbean of Colombia, however, there is much material that has not yet been properly labeled within the collections of the institutions, which will provide new codes to add these species to the work.

DOI:

Expected date of publication: 2022-08-31

List of occurrences of Longhorned beetles in the Caribbean of Colombia.

Dataset type: Occurrences

Dataset scope: A list of occurrences of the Longhorned beetles (Cerambycoidea) species for the Colombian Caribbean will be made. Valid name, locality, coordinates, and any other relevant data will be provided.

Number of records: 1,000

Data holder: National collections

Data host institution: National collections

% complete: 90%

Status update: With the revision of collections in Atlántico, Bogotá and Boyacá, we had compiled more than 1000 records of Cerambycidae occurring in the Caribbean region of Colombia, with specifications on the date and coordinates on the event. However, this revision is still undergoing and we expect to register many more occurrences.

DOI:

Expected date of publication: 2022-07-31

List of occurrences of Formicidae from the department of Atlántico and the mountain range “Montes de María” in Bolivar in the Caribbean of Colombia.

Dataset type: Occurrences

Dataset scope: A list of occurrences of Formicidae from the department of Atlántico and the mountain range “Montes de María” for the Colombian will be made. Valid name, locality, coordinates, and any other relevant data will be provided.

Number of records: 25

Data holder: National collections

Data host institution: National collections

% complete: 10%

Status update: With the review of the collections of the Universidad del Atlántico, we have compiled 27 records of Formicidae occurring in the departments of Atlántico and the subregion Montes de María in the Caribbean region of Colombia, with specifications of date and coordinates of the event. However, this review is still in process and we hope to record many more occurrences after completing the review of the Universidad del Atlántico and visiting collections in Boyacá, Bogotá, Valle del Cauca and Antioquia that have records from Atlántico and Bolívar.

DOI:

Expected date of publication: 2022-11-30

List of occurrences of Damselflies and Dragonflies in the Caribbean of Colombia.

Dataset type: Occurrences

Dataset scope: It will be generated a species list of Odonata from the Colombian Caribbean with their distribution for each department. New reports generated in this work will be listed as well as the previous reports in literature.

Number of records: 100

Data holder: National collections

Data host institution: National collections

% complete: 80%

Status update: Collections in Universidad del Atlántico and Universidad de los Andes had been revised allowing the identification of odonates from the Caribbean of Colombia. So far, most of the records belong to the department of Atlántico and La Guajira, it remains to review 30% of the collection of the Universidad del Atlántico.

DOI:

Expected date of publication: 2022-11-30

List of occurrences of Mantodea in the Caribbean of Colombia.

Dataset type: Occurrences

Dataset scope: A list of occurrences of the Mantodea species for the Colombian Caribbean will be made. Valid name, locality, coordinates, and any other relevant data will be provided.

Number of records: 12

Data holder: Universidad del Atlántico

Data host institution: Universidad del Atlántico

% complete: 10%

Status update: With the review of the collections of the Universidad del Atlántico Atlántico, 12 records of Mantodea that occurred in the Caribbean region of Colombia were compiled, specifying the date and coordinates of the event. However, this review is still in process and we hope to record many more occurrences after visiting national collections that have records from the Colombian Caribbean.

DOI:

Expected date of publication: 2023-01-31

List of occurrences of Opiliones in the Caribbean of Colombia.

Dataset type: Occurrences

Dataset scope: A list of occurrences of the Opiliones species for the Colombian Caribbean will be made. Valid name, locality, coordinates, and any other relevant data will be provided.

Number of records: 16

Data holder: National collections

Data host institution: National collections

% complete: 50%

Status update: With the review of the collections of the Universidad del Atlántico Atlántico, 16 records of Opliones that occurred in the Caribbean region of Colombia were compiled, specifying the date of the event. However, this review is still in process and we hope to record many more occurrences after visiting national collections that have records from the Colombian Caribbean.

DOI:

Expected date of publication: 2022-12-31

List of occurrences of spiders in the Caribbean of Colombia.

Dataset type: Occurrences

Dataset scope: A list of occurrences of the spider's species for the Colombian Caribbean will be made. Valid name, locality, coordinates, and any other relevant data will be provided.

Number of records: 20

Data holder: National collections

Data host institution: National collections

% complete: 20%

Status update: The collections of the Universidad del Atlántico, the Universidad Nacional and the Von Humboldt Institute have compiled about 20 spiders from the Caribbean of Colombia, however, there is a lot of material that has not yet been properly labeled within the collections of the institutions, which will allow us to have new codes to add these species to the work.

DOI:

Expected date of publication: 2022-08-31

Other deliverables

Richness map of Longhorned beetles in the Caribbean of Colombia.

Description: It will be designed a map which will show the richest departments in the Caribbean of Colombia in terms of Cerambycidae species. It will also be generated the same map for Disteniidae

% complete: 10%

Status update: The richness map will be made only when all revisions at the entomological collections are finished. However, the 10% of progress represents the data we have gathered so far. The matrix for constructing the map is going to be built only when we have all the data and we will reach the 50%. The 100% will be reached when the complete map is produced.

Sources of verification: N/A

Webpage of the Cerambycidae of the Caribbean of Colombia

Description: It will be designed a webpage containing information on which subfamilies, tribes and species are registered for the Caribbean of Colombia. The webpage will also contain pictures of some of the species, the known distribution and published papers that contain information of Cerambycidae in the region.

% complete: 30%

Status update: The pictures for most of the species, as well as the bibliography is already gathered. The construction of the webpage depends on the funds that we had not received so far, causing delay in the execution of the webpage.

Sources of verification: N/A

Richness map of Formicidae from the department of Atlántico and the mountain range "Montes de María" for the Colombian

Description: It will be designed a map of the species of Formicidae which shows the distribution of ants on the department of Atlántico and the mountain range Montes de María in Bolívar.

% complete: 0%

Status update: The richness map will only be made when all revisions in the entomological collections are completed. However, the 0% progress represents the data we have collected so far. The matrix to build the map will be built only when we have all the data and we will reach 50%. 100% will be reached when the complete map is produced.

Sources of verification: N/A

Richness map of endangered species of Odonata from the Colombian Caribbean.

Description: It will be designed a map of species of Odonata evaluated as Vulnerable, Endangered, Critically Endangered, and Extinct in the IUCN Red List from the Colombian Caribbean that can be used to initiate conservation works.

% complete: 0%

Status update: The richness map will only be done when all the revisions in the entomological collections are completed. Matrix will be built only when we have the 100% of the collection's revision done.

Sources of verification: N/A

Richness map of species of Mantodea in the Caribbean of Colombia

Description: It will be designed a distribution map of species of Mantodea which will show the richest departments in the Caribbean of Colombia with respect to this group.

% complete: 5%

Status update: The richness map will only be done when all the revisions in the entomological collections are completed. However, the 5% progress represents the data we have collected so far. The matrix to build the map will be built only when we have all the data and we will reach 50%. 100% will be reached when the full map is produced.

Sources of verification: N/A

Richness map of species of Opiliones in the Caribbean of Colombia.

Description: It will be designed a map of families of Opiliones which will show the richest departments in the Caribbean of Colombia with respect to this group.

% complete: 0%

Status update: The richness map will only be done when all the revisions in the arachnological collections are completed. Matrix will be built only when we have the 100% of the collection's revision done.

Sources of verification: N/A

Communications and visibility

So far, we have accomplished to bring visibility to the project by contacting a local newspaper, who shared our participation in the project to the local community through its website: <https://www.elheraldo.co/region-caribe/investigadores-colombianos-ganan-convocatoria-de-la-union-europea-840547?fbclid=IwAR3gqRs-5swDdDoSyH2ca621UXCYHap66OTTNbvLPCkDiX6fzLeiYk10ZbU>, as well as through its different social networks: Instagram, Twitter and Facebook. We will continue to contact them with our results. We plan to continue the dissemination of our project progress and results, with the use of several strategies to reach both the scientific community and our local community. As for the strategies to be used, we will share the link of our project webpage with the Universidad del Atlántico to receive support for the dissemination through their social networks.

Another strategy that we plan to implement is to reinforce the usage of our project website, where our information will be available, in order to create a base for other scientists who can use, replicate and update our work. Also, to reach the scientific community we will make sure to publish our results in indexed journals, not only presenting the tabulated data, but also analyzing our biodiversity. Finally, we will disseminate the information through the different courses and workshop included in the project and make known through them the scope and importance of this type of work.

Monitoring and evaluation

Monitoring and evaluation findings

As planned we are developing monthly meetings among the members of the project. In each meeting, each member presented their progress and problems, and we brought possible solutions for each problem.

The main problem, which has affected the entire project, is the delay in receiving the funds. This delay has prevented most of the members of the group from being able to visit the collections at the proposed times, as well as developing the scheduled courses. We overcome this problem by constantly contacting the financial department of the university via email, telephone and personally. Despite this delay, some collections have already been visited, which has allowed one of the deliverables to be published (Checklist of Cerambycidae). Additionally, a list of occurrences is currently under revision for data quality. The other groups, in order to avoid further delay, are advancing with the revision of the local collection and all of them have already some results. However, the problem of not receiving the funds affected mainly the development of the courses which depends entirely on the money for the logistics, we held an urgent meeting where we decided to postpone the courses until we receive the funds. They both are currently scheduled for November 2022.

Recently, on June 28, we discovered that the money is already in the University and is currently in internal processes. As soon as it is available to use, all the members of the project will meet to start planning the travels to the collections. It is important to mention that all the curators of these collections were already contacted and we have authorization to carry out these visits. Considering that the money will be available anytime soon, we do not expect any problems in accomplishing the proposed deliverables.

As we already commented above, there were delays in the transfer and receiving of the funds, and this was mainly affected by the COVID-19 pandemic because all administrative processes in the University were done remotely and there was no personal attention, making the communication with the financial department particularly hard, which affected the transfer of the funds due to incorrect information of the bank details. Consequently, our mobilization to other collections was also affected, and the development of the courses was impossible, and so we suggested to postpone the dates of the courses. Also, due to the COVID-19 pandemic many restrictions regarding the entry of visits to national collections were implemented, making difficult even the revision of our local institution.

GBIF leads the Biodiversity Information for Development (BID), a programme funded by the European Union. The programme provides supplementary support for activities addressing the needs of regional researchers and policymakers through mobilization and use of biodiversity data.

