



**GBIF**

Global Biodiversity  
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# Alien Amphibians and Reptiles, a Threat to Philippine Biosecurity: Developing a National Invasive Alien Amphibian and Reptile Inventory and Occurrence Database and an Observation and Monitoring System.



**ARMAN NORCIO-PILI**

HerpWatch Pilipinas, Inc.

Manila, the Philippines

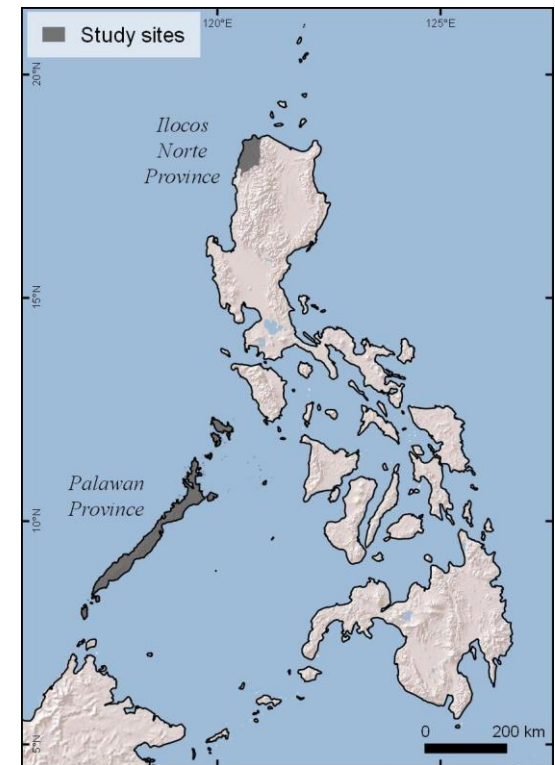
# PROJECT OBJECTIVES

## PRIMARY OBJECTIVE:

to fill taxonomic, geographical, and historical gaps in species occurrence and sampling-event data, focused on the 13 alien amphibians and reptiles in the Philippines, and develop an online national platform for long-term observation and monitoring of alien species invasions, with alien amphibians and reptiles as pilot group.

## SPECIFIC OBJECTIVES:

- (1) assemble historical and geographical data from literature and natural history collections;
- (2) generate species occurrence and sampling-event data by conducting targeted herpetofaunal surveys in *two key conservation areas*
- (3) reconstruct invasion histories and develop 'Pest Risk Maps';
- (4) develop an observation and monitoring system, named "DAYO" (*filipino* for "alien")<sup>1</sup>
- (5) Conduct Information campaigns and training workshops targeting key stakeholders (i.e., communities, environmental managers) to promote and encourage citizen science and contributions from volunteers.



<sup>1</sup>envisioned to be an online, open-access platform and repository of species occurrence data and sampling-event data dedicated to invasive alien species in the Philippines, with alien amphibians and reptiles as pilot group, in the form of a web portal and a smartphone application.

# DATA SOURCES

## *Species occurrence data and sample-event data:*

### (1) Scientific literature

- Published scientific literature
- Technical reports
- Undergraduate and graduate thesis and dissertation
- Field observation of experts, previous fieldworks of HerpWatch Pilipinas, Inc.

### (2) Natural History Collections

- Local Universities and Museums across the Philippines

### (3) Targeted herpetofaunal surveys in *two key conservation areas*

- Palawan Island, Palawan Province
- Ilocos Norte Province, Luzon Island

# PROJECT TIMELINE

ACTIVITIES	April	May	June	July	August	September	October	November	December	January	February	March
<b>Coordination and application of Permits</b> for Herpetofaunal Surveys: Metropolitan Ilocos Norte Watershed and Forest Reserve, Kalbario-Patapat Natural Park, Municipality of Pagudpud, Municipality of Pasuquin (Application)												
<b>Kickoff meeting</b> with project partners												
<b>Coordination and application of Permits</b> for Herpetofaunal Surveys: Mount Pulgar, Municipality of Puerto Princesa; Municipality of Busuanga (Application)												
<b>Data mining:</b> Mining, cataloguing, and digitizing species occurrence data of alien amphibian and reptile species from scientific literature.												
Capacity Enhancement Workshop												
<b>Data mining:</b> Mining, cataloguing, and digitizing species occurrence data of alien amphibian and reptile species from University of Santo Tomas Museum												
<b>Data mining:</b> Mining, cataloguing, and digitizing species occurrence data of alien amphibian and reptile species from Philippine National Museum of Natural History												
<b>Data mining:</b> Mining, cataloguing, and digitizing species occurrence data of alien amphibian and reptile species from University of the Philippines Los Baños Museum of Natural History												
<b>Data mining:</b> Mining, cataloguing, and digitizing species occurrence data of alien amphibian and reptile species from Silliman University Rodolfo B. Gonzales Museum of Natural History												
<b>Information campaigns:</b> the project will be promoted in Philippine Biodiversity Symposium. Preliminary findings will be presented.												
<b>Data mining:</b> Mining, cataloguing, and digitizing species occurrence data of alien amphibian and reptile species from Mindanao State University – Iligan Institute of Technology Natural Science Museum												
<b>Herpetofaunal survey</b> in Ilocos Norte Province, Luzon Island												

# PROJECT TIMELINE

ACTIVITIES	April	May	June	July	August	Septem	October	Novemb	Decemb	January	Februar	March
<b>Herpetofaunal survey</b> in Palawan Island, Palawan Province												
<b>Preparation of Mid-Term Report</b>												
<b>Data mining:</b> Mining, cataloguing, and digitizing species occurrence data of alien amphibian and reptile species University of the Philippines Diliman Collections,												
<b>Preparation of data papers:</b> Data paper of assembled species occurrence data from literature and natural history collections will be prepared and submitted to a peer-reviewed journal (e.g. NeoBiota, BioInvasions Records, etc.).												
<b>Preparation of data papers:</b> Data papers on the two herpetofaunal surveys (including data from previous surveys conducted in the sites) will be prepared and submitted to a peer-reviewed journal (e.g. Check List, etc.).												
<b>DAYO:</b> Developing an online, open-access platform for observation and monitoring of herpetofaunal invasions – Webportal												
<b>DAYO:</b> Developing an online, open-access platform for observation and monitoring of herpetofaunal invasions – Smartphone Application												
<b>Preparation of original articles:</b> original articles on reconstructed invasion histories of the alien amphibian and reptile species will be prepared and submitted to peer-reviewed journals (e.g. NeoBiota, Diversity and Distributions, Biological Conservation, etc.).												
<b>Preparation of original articles:</b> original articles on reconstructed "Pest Risk Maps" of the alien amphibian and reptile species will be prepared and submitted to peer-reviewed journals (e.g. NeoBiota, Diversity and Distributions, Biological Conservation, etc.).												
<b>Training workshops:</b> workshop or short training will be conducted and targeting environmental managers, academe, and natural history collections managers.												
<b>Information Campaign:</b> Presentation of Field Report to Protected Areas Board Meeting in Palawan Province												
<b>Information Campaign:</b> Presentation of Field Report to Protected Areas Board Meeting in Ilocos Norte												
<b>Final meeting</b> of project members and counterparts of project partners.												
<b>Preparation of Final Report</b>												

# PROJECT SUSTAINABILITY

- (1) Goal 4 of this project is to develop an observation and monitoring system in the form of “DAYO”<sup>1</sup>
- (2) HWP will work closely with the DENR-BMB IAS Technical Working Group and Expert Group, policy makers, and environmental authorities
- (3) HWP will proactively participate post-project in education and public awareness initiatives and outreach campaign programs<sup>2</sup>
- (4) Members of the project field team will primarily be composed of graduate students (M.Sc., Ph.D.), who will also be actively participating in and/or leading scientific research especially on field surveys, field experiments, and studies to be made inside the laboratory.

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<sup>1</sup> envisioned to be an online, open-access platform and repository of species occurrence data and sampling-event data dedicated to invasive alien species in the Philippines, with alien amphibians and reptiles as pilot group, in the form of a web portal and a smartphone application.

<sup>2</sup> This includes participation in IAS information and awareness campaigns, providing quality and consistent training among relevant government agencies and stakeholders, incorporation of IAS issues to school curriculum, organizing control/eradication activities, among others.

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