

1. Imaging Stations and Data Collection



Imaging stations are deployed across biodiversity hotspots, with selected regions highlighted on the map. One prominent site is the Yanayacu Biological Station, founded by Dr. Harold F. Greeney. Insect traps are installed at these locations, and cameras continuously capture insect activity upon attraction to the light source.

2. Data Processing and Expert Verification

Known Species



Established species from iNaturalist are filtered to match the taxonomic distribution and visual conditions of the novel species dataset.

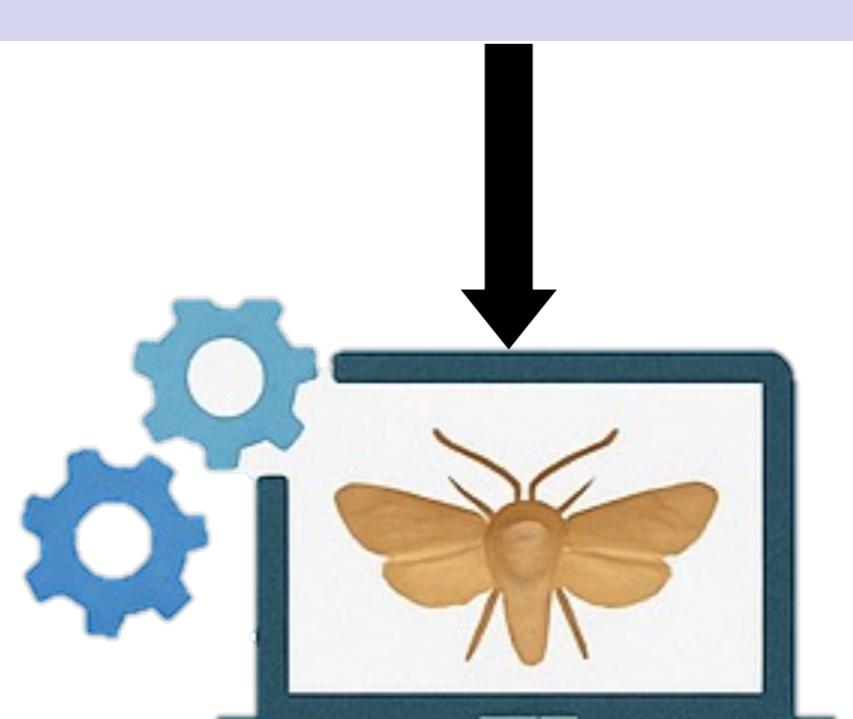
Novel Species

Expert Verification and Partial Labelling



Metadata:
Location
Voucher Codes

Labels:
Order: Lepidoptera
Family: Uncertain
Genus: Uncertain
Species: Uncertain



Filter using AI Tools

Extracted Images of Insects



Domain experts manually crop insect images, filtering out known species and retaining those suspected to be novel. Assessment relies on expert and prior knowledge, challenging cases are further evaluated using field guides, online tools, AI models, and, when needed, additional data such as DNA for downstream analysis.

Novel Species



Known Species