

# Developing Estonian Biodiversity portal

International Living Atlases Workshop, 19-23 February 2018, Madrid

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# Agenda

Why ALA platform

Our initial goal

User feedback

Done

Modifications

Work in progress

Plans

The screenshot shows a web browser window with the URL `demo.elurikkus.ut.ee/en`. The page features a header with the logo "eElurikkus" and a navigation menu with items: "EXPLORE DATA", "Species", "Species lists", "Regions", "Collections", "Data resources", and "Occurrence Records". The main content area has a background image of lynxes in a forest. Text on the page reads: "eBiodiversity is a web interface for the taxa found in Estonia. There is already data on 28 363 species and more than 3 million records". Below this is a search interface with three sections: "SPECIES" (with a search box containing "scientific or common names" and a magnifying glass icon, and a list of categories: "Animals", "Fungi", "Plants", "Protista", "Bacteria"), "LOCATION" (with a search box containing "zip code, location or GPS" and a magnifying glass icon, and a list of options: "Spatial search", "Explore your area", "Predefined areas"), and "OCCURRENCE RECORDS" (with a search box containing "scientific or common species name" and a magnifying glass icon, and a list of options: "Advanced search", "Batch search", "Catalogue number search"). At the bottom, there are three featured sections: "Monitoring" with a butterfly image, "DNA based observations" with a jellyfish image and the text "UNITE data resource", and "Observations" with a bird image and the text "Recent Observations" and "Recent bird observations".

# Why ALA platform

Old “portal” is 10 years old

Global use

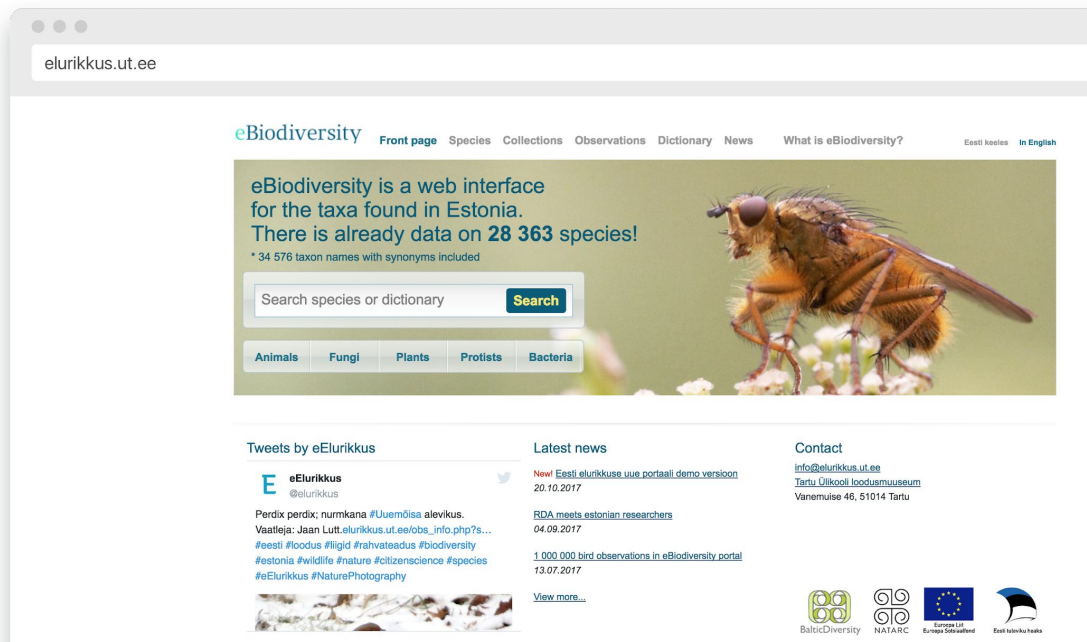
Independent system

Ease of data sharing

Community

Lure of *Open Source*

Tell you the truth...



The screenshot shows the eBiodiversity website interface. The browser address bar displays "elurikkus.ut.ee". The website header includes the "eBiodiversity" logo and navigation links: "Front page", "Species", "Collections", "Observations", "Dictionary", "News", "What is eBiodiversity?", "Eesti keeles", and "In English".

The main content area features a large banner with a close-up image of a fly. The text reads: "eBiodiversity is a web interface for the taxa found in Estonia. There is already data on **28 363** species!" Below this, it states: "\* 34 576 taxon names with synonyms included". A search bar is present with the placeholder text "Search species or dictionary" and a "Search" button. Below the search bar are category buttons: "Animals", "Fungi", "Plants", "Protists", and "Bacteria".

The footer section is divided into three columns:

- Tweets by eElurikkus**: A tweet from @elurikkus mentioning "Perdix perdix; nurmkana #Uuemõisa alevikus. Vaatleja: Jaan Lutt.elurikkus.ut.ee/obs\_info.php?ts... #eesti #loodus #ligid #rahvateadus #biodiversity #estonia #wildlife #nature #citizenscience #species #eElurikkus #NaturePhotography".
- Latest news**: A news item titled "Eesti elurikkuse uue portaali demo versioon" dated 20.10.2017, and another titled "RDA meets estonian researchers" dated 04.09.2017. A link "1 000 000 bird observations in eBiodiversity portal" dated 13.07.2017 is also visible.
- Contact**: Information including "info@elurikkus.ut.ee", "Tartu Ülikooli loodusmuuseum", and "Vanemuise 46, 51014 Tartu".

At the bottom right, there are logos for "BalticDiversity", "NATARC", "Europe Ltd. European Commission", and "Eesti looduse teaduskeskus".

# Our initial goal

Implement all modules

Vanilla functionality

Translations

Integration with PlutoF platform

ONLY simple customisations (colors, logos, text)

The screenshot shows the eElurikkus web application interface for the species *Hirundo Linnaeus, 1758*. The page is titled "Hirundo Linnaeus, 1758" and includes a rank of "genus" and "Accepted" status, with the name authority "PlutoF Taxonomy". A search bar is visible below the title. The main navigation menu includes "EXPLORE DATA", "Species", "Species lists", "Regions", "Collections", "Data resources", and "Occurrence records". The sub-navigation menu includes "Overview", "Gallery", "Names", "Classification", "Records", "Literature", "Sequences", and "Data resources". The "Overview" section features a large image of a swallow perched on a wire, with a caption "Hirundo rustica Linnaeus, 1758". Below this are four smaller images of swallows in various poses. A "Sounds" section includes a play button, a progress bar (0:00 / 0:13), and a volume control. The "Description" section provides information on depth range (based on 147 specimens in 9 taxa) and water temperature and chemistry ranges (based on 82 samples). The "Occurrence records map (10,184 records)" section shows a map of Europe with a cluster of red dots representing records in the Baltic region. The map includes a zoom control and a "View interactive map" button. The "Data resources" section indicates that 3 data resources have provided data for this taxon and offers a link to "Browse the list of data resources and find organisations."

# User feedback

Wide userbase

Maps are not everything

Need for proper documentation

Data model limitations

EXPLORE DATA | Species | Species lists | Regions | Collections | Data resources

## eElurikkus

### Järva maakond

Occurrence records in region Järva maakond (19,931)

← Regions

Filter occurrence records by species

Drag handles to restrict date or play by decade [View records](#)

Species groups | Taxonomic distribution

Group	#	Species : Common Name	Records
▼ All Species	1975	1. Abraxas sylvata : pargi-tähnivaksik	1
▶ Animalia	609	2. Abrothallus suecicus	1
▶ Aves	205	3. Acanthis cannabina : kanepilind	3
▶ Plantae	917	4. Acanthis flammea : urvalind	1
▶ Fungi	447	5. Acanthocinus aedilis : hariilik	1
▶ Insecta	279	käätsusikk	
▶ Protista	1	6. Accipiter gentilis : kanakull	4
▶ Chromista	0	7. Accipiter nisus : raudkull	29
▶ Bacteria	0	8. Acer negundo : saarvaher	2
▶ Mammalia	37	9. Acer platanoides : harilik vaher	45
▶ Lepidoptera	146	10. Acer pseudoplatanus : mägivaher	3
▶ Actinopterygii	1	11. Achillea millefolium : hariilik raudrohi	51
▶ Mollusca	1	12. Achillea ptarmica : võsa-raudrohi	1
▶ Amphibia	4	13. Achyrophorus maculatus	1
▶ Reptilia	2	14. Acinos arvensis : väike nõmmemünt	2
		15. Acinos thymoides	9
		16. Acleris laterana	1
		17. Acleris maccana	1
		18. Acmaeops collaris : Kaelussikk	4
		19. Acompsia (Acompsia) cinerella	1
		20. Aconitum napellus : sinine käoking	9
		21. Acorus calamus : hariilik kalmus	8
		22. Acrocephalus arundinaceus : rästas-roolind	5
		23. Acronycta despectatorum	1

Map

1850 1850 - 2018

Occurrences

Region

# Done: implemented modules

Species profiles

Lists

Collectory

Datasets

Occurrence data

Regions

Explore your area

Spatial portal

eElurikkus

EXPLORE DATA | Species Species lists Regions Collections Data resources Occurrence Records

## Occurrence records

Search nature observations, data from species monitoring projects, vouchered specimens and DNA based observations. All taxon occurrence records and connected media are hosted and managed in PlutoF information system. New data is added on a regular basis.

[Advanced search](#) [Batch taxon search](#) [Catalogue number search](#) [Spatial search](#)

[Q Search](#)

3,005,040 results for all records

**Narrow your results**

Customise filters ▾

- TAXON ▾
- IDENTIFICATION ▾
- LOCATION ▾
- OCCURRENCE ▾
- Collectors
  - (Bror Otto) Hernfrid Witte (1)
  - (Eero) Arvi Ulvinen (1)
  - (Emanuel Friedrich) Ludvig Fischer (1)
  - Load more...
- Rights holder
  - Aarne Pruks (30)
  - Aarne Tuule (201)
  - Aat Sarv (9,967)
  - Load more...
- Month
  - 01 (71,464)
  - 02 (39,077)
  - 03 (108,987)

Records | Map | Charts | Record images

[Download](#) Results per page 20 Sort by Record date Sort by Descend

Date	Taxon	Common name	Count	ID	Locality	Collectors
2017-10-25	<i>Ptilium crista-castrensis</i>	harilik lehviksammal		TU153249	Väike-Maarja vald, Ebavere maa...	Ege-Ly Petermann
2017-10-25	<i>Sphagnum fallax</i>	höre turbasammal		TU153250	Väike-Maarja vald, Ebavere maa...	Ege-Ly Petermann
2017-10-25	<i>Pleurozium schreberi</i>	harilik palusammal		TU153251	Väike-Maarja vald, Ebavere maa...	Ege-Ly Petermann
2017-10-25	<i>Hylacomium splendens</i>	harilik laanik		TU153252	Väike-Maarja vald, Ebavere maa...	Ege-Ly Petermann
2017-10-25	<i>Dicranum polysetum</i>	lainjas kaksikhammas		TU153253	Väike-Maarja vald, Ebavere maa...	Ege-Ly Petermann
2017-10-25	<i>Rhytidadelphus triquetrus</i>	metsakäharik		TU153254	Väike-Maarja vald, Ebavere maa...	Ege-Ly Petermann
2017-10-25	<i>Polytrichum commune</i>			TU153255	Väike-Maarja vald, Ebavere maa...	Ege-Ly Petermann
2017-10-09	<i>Larus ridibundus</i>	naerukajakas	100		Rae vald, RESTRICTED	Juha Saari, Merike Saari
2017-10-09	<i>Branta leucopsis</i>	valgepõsk-lagle	300		Rae vald, RESTRICTED	Juha Saari, Merike Saari
2017-10-09	<i>Larus canus</i>	kalakajakas	1300		Rae vald, RESTRICTED	Juha Saari, Merike Saari
2017-10-09	<i>Anser brachyrhynchus</i>	lühinokk-hani	1		Rae vald, RESTRICTED	Juha Saari, Merike Saari
2017-10-09	<i>Anser albifrons</i>	suur-laukhani	250		Rae vald, RESTRICTED	Juha Saari, Merike Saari

# Done: data management

Gathering, Creation, Curation

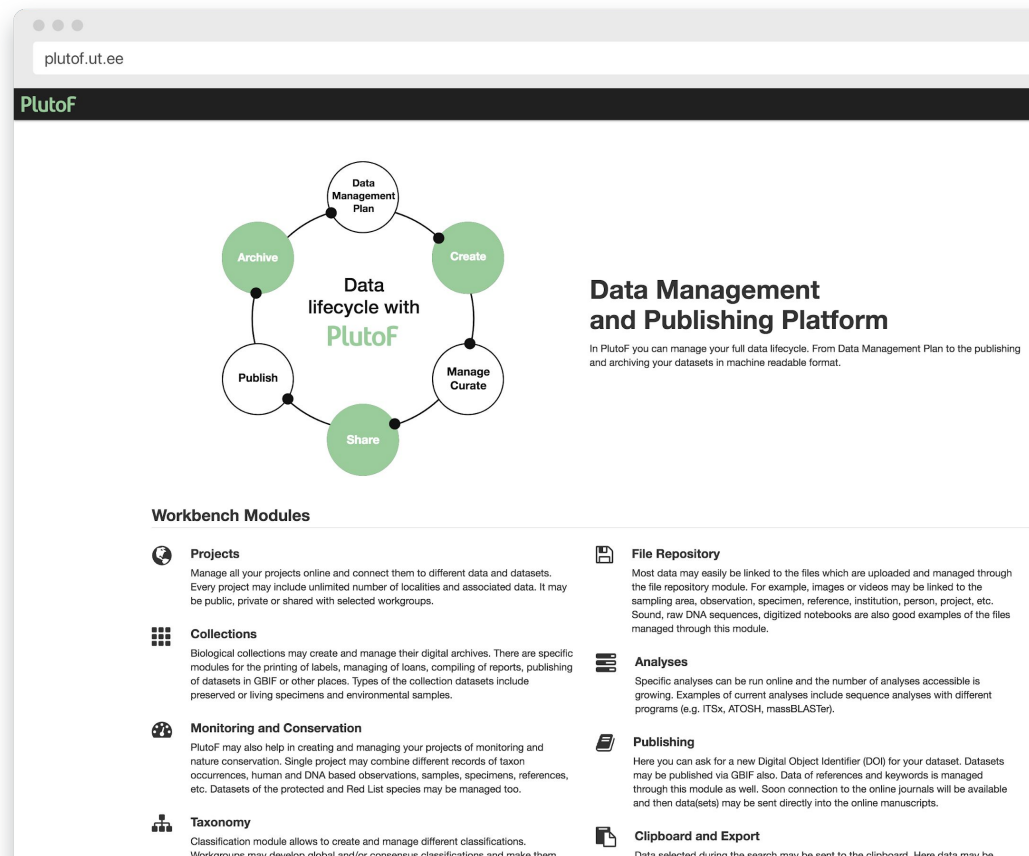
DwC Export

Live sync

Taxonomy

Kirby CMS for community pages

No ALA user accounts



plutof.ut.ee

**PlutoF**

**Data lifecycle with PlutoF**

The diagram illustrates the data lifecycle with PlutoF, showing a circular flow of six stages: Data Management Plan, Create, Manage Curate, Share, Publish, and Archive.

**Data Management and Publishing Platform**

In PlutoF you can manage your full data lifecycle. From Data Management Plan to the publishing and archiving your datasets in machine readable format.

**Workbench Modules**

- Projects**  
Manage all your projects online and connect them to different data and datasets. Every project may include unlimited number of localities and associated data. It may be public, private or shared with selected workgroups.
- Collections**  
Biological collections may create and manage their digital archives. There are specific modules for the printing of labels, managing of loans, compiling of reports, publishing of datasets in GBIF or other places. Types of the collection datasets include preserved or living specimens and environmental samples.
- Monitoring and Conservation**  
PlutoF may also help in creating and managing your projects of monitoring and nature conservation. Single project may combine different records of taxon occurrences, human and DNA based observations, samples, specimens, references, etc. Datasets of the protected and Red List species may be managed too.
- Taxonomy**  
Classification module allows to create and manage different classifications. Workgroups may designate global and/or common classifications and make them
- File Repository**  
Most data may easily be linked to the files which are uploaded and managed through the file repository module. For example, images or videos may be linked to the sampling area, observation, specimen, reference, institution, person, project, etc. Sound, raw DNA sequences, digitized notebooks are also good examples of the files managed through this module.
- Analyses**  
Specific analyses can be run online and the number of analyses accessible is growing. Examples of current analyses include sequence analyses with different programs (e.g. ITSx, ATOSH, massBLASTer).
- Publishing**  
Here you can ask for a new Digital Object Identifier (DOI) for your dataset. Datasets may be published via GBIF also. Data of references and keywords is managed through this module as well. Soon connection to the online journals will be available and then data(sets) may be sent directly into the online manuscripts.
- Clipboard and Export**  
Data selected during the search may be sent to the clipboard. More data may be

# Modifications

Unify layout & style of all modules

Update & Unify libraries, resources, plugins

Reorganise configs, translations

Responsiveness (where reasonable)

Data sync

Additional monitoring (Rollbar)

**eElurikkus**

EXPLORE DATA | Species | Species lists | Regions | Collections | Data resources

## Regions

Select preferred region, nature conservation area or predefined location and discover its biodiversity and species richness over the years. Regional species lists are based on taxon occurrence records falling into these areas according to their geo-coordinates. List of available predefined areas is updated regularly and expands over time. To suggest a useful layer, please contact us.

[Spatial search](#) [Explore your area](#)

Click on a region name to select an area

▼ Maakonnad (updated at 2017-10-19)
Harju maakond
Hiiu maakond
Ida-Viru maakond
Järva maakond
Jõgeva maakond
▶ Omavalitsused (updated at 2017-05-01)
▶ Kaitsealad (updated at 2017-12-01)
▶ Taimeatlase ruudud (updated at 2017-10-19)
▶ Linnuatlase ruudud (updated at 2017-10-19)
▶ Veelinnud (updated at 2017-10-19)
▶ Hoiualad (updated at 2017-12-01)

Click on the map to select an area

Map

Google

Map data ©2018 Geo-Basis DE/BKG (©2009)

All regions

Selected region



# Modifications: Unified UX

Introduction text

Related links

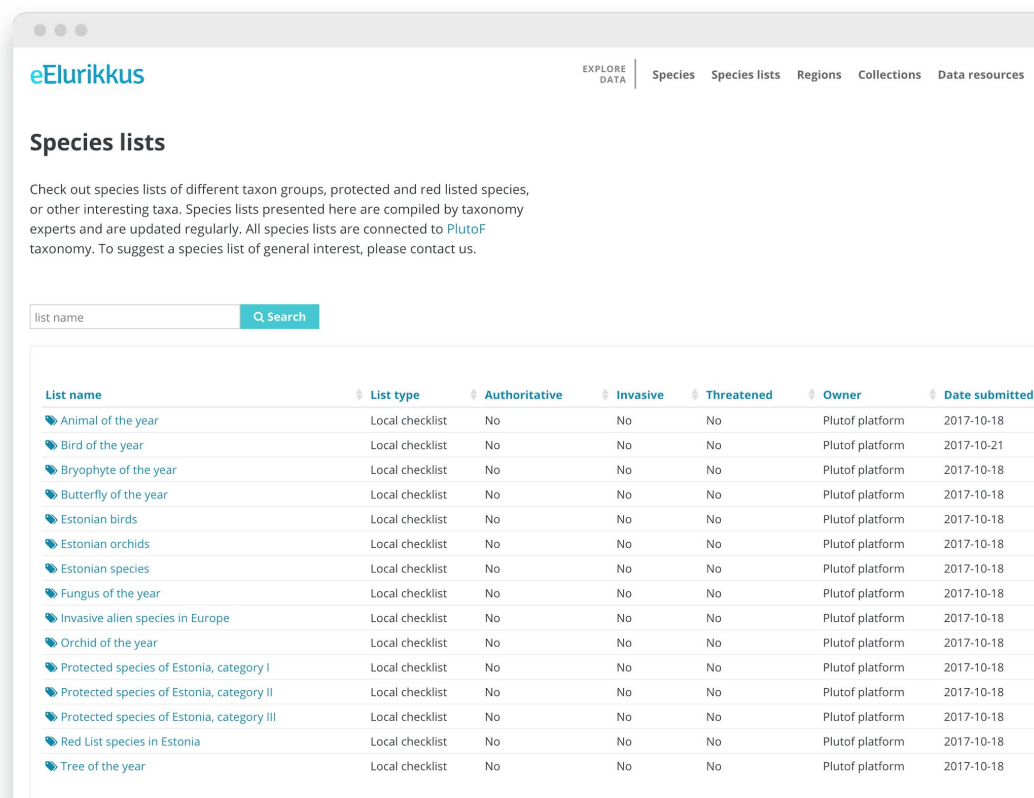
Search field

Active filters

Left column filters

Action button

View records



The screenshot shows the eElurikkus website interface. At the top, there is a navigation bar with the logo 'eElurikkus' and a menu with 'EXPLORE DATA' and links for 'Species', 'Species lists', 'Regions', 'Collections', and 'Data resources'. Below the navigation, the page title is 'Species lists'. A paragraph of introductory text explains that the lists are compiled by taxonomy experts and are updated regularly. Below the text is a search field with the placeholder 'list name' and a blue 'Search' button. The main content is a table with the following columns: List name, List type, Authoritative, Invasive, Threatened, Owner, and Date submitted. The table contains 16 rows of data, each representing a different species list.

List name	List type	Authoritative	Invasive	Threatened	Owner	Date submitted
Animal of the year	Local checklist	No	No	No	Plutof platform	2017-10-18
Bird of the year	Local checklist	No	No	No	Plutof platform	2017-10-21
Bryophyte of the year	Local checklist	No	No	No	Plutof platform	2017-10-18
Butterfly of the year	Local checklist	No	No	No	Plutof platform	2017-10-18
Estonian birds	Local checklist	No	No	No	Plutof platform	2017-10-18
Estonian orchids	Local checklist	No	No	No	Plutof platform	2017-10-18
Estonian species	Local checklist	No	No	No	Plutof platform	2017-10-18
Fungus of the year	Local checklist	No	No	No	Plutof platform	2017-10-18
Invasive alien species in Europe	Local checklist	No	No	No	Plutof platform	2017-10-18
Orchid of the year	Local checklist	No	No	No	Plutof platform	2017-10-18
Protected species of Estonia, category I	Local checklist	No	No	No	Plutof platform	2017-10-18
Protected species of Estonia, category II	Local checklist	No	No	No	Plutof platform	2017-10-18
Protected species of Estonia, category III	Local checklist	No	No	No	Plutof platform	2017-10-18
Red List species in Estonia	Local checklist	No	No	No	Plutof platform	2017-10-18
Tree of the year	Local checklist	No	No	No	Plutof platform	2017-10-18

# Work in progress

Biocache hub records view improvements

Sync improvements

Content pages

**eElurikkus**

EXPLORE DATA | Species | Species lists | Regions | Collections | Data resources

### Explore your area

Discover or add to Estonian biodiversity data in your region of interest. Search taxon occurrences by exact address, locality name, post index or geo-coordinates. All records are hosted and managed in **PlutoF** information system. Your nature observations are most welcome to complement the existing data about Estonian nature!

[Regions](#) [Spatial search](#)

location name, address, coordinates

Showing records for: **Puistee 77, 51009 Tartu, Estonia**

**Narrow results by species**

Group	#	Species : Common Name	Records
▼ All Species	791		
▶ Animalia	613	1. <i>Abraaxas sylvata</i> : pargi-tähnrikvaksik	2
		2. <i>Abrostola tripartita</i> : harilik nõgeseöölane	3
▶ Aves	128	3. <i>Abrostola triplasia</i> : pruunikas nõgeseöölane	1
▶ Plantae	55	4. <i>Accipiter nisus</i> : raudkull	13
▶ Fungi	116	5. <i>Acronicta (Acronicta) aceris subsp. aceris</i> : vahtra-noolöölane	5
▶ Insecta	475	6. <i>Acronicta (Acronicta) leparina</i> : valge-noolöölane	1
▶ Protista	7		
▶ Chromista	0		
▶ Bacteria	0	7. <i>Acronicta (Jocheaera) alni</i> : lepa-noolöölane	1
▶ Mammalia	4	8. <i>Acronicta (Triaena) psi</i> : täht-noolöölane	2
▶ Lepidoptera	239	9. <i>Acronicta (Triaena) tridens</i> : kolmkida-noolöölane	5
▶ Actinopterygii	0		
▶ Mollusca	0	10. <i>Acronicta megalopha</i> : haava-noolöölane	3
▶ Amphibia	0	11. <i>Acronicta rumicis subsp. rumicis</i> : oblika-noolöölane	1
▶ Reptilia	1	12. <i>Actitis hypoleucos</i> : vihitaja	3
		13. <i>Aedes (Aedimorphus) vexans</i>	1
		14. <i>Aegithalos caudatus</i> : sabatihane	2
		15. <i>Aethes triangulana</i>	4
		16. <i>Aethusa cynapium</i> : koeraputk	3
		17. <i>Agaricus bitorquis</i> : linnašampinjon	1

Drag the red marker to adjust the location

Radius (km)

# Plans maybe

Additional Hub

Upgrade: Cassandra

Upgrade: SOLR

Distribute system for performance

dwc:MeasurementOrFact

The screenshot shows the eElurikkus website interface. At the top, there is a navigation bar with the logo 'eElurikkus' and a menu with 'EXPLORE DATA', 'Species', 'Species lists', 'Regions', 'Collections', and 'Data resources'. The main heading is 'Collections'. Below it, a paragraph explains that the page displays Estonian Natural History Collections, currently limited to the NATARC consortium, and notes that the list will expand to include other collections in Estonia. It provides contact information for making institutions or private collections accessible through the eBiodiversity portal.

Active filters: 11 collections in total.

Filter collections by category

- All collections: Show all 11 collections
- Animals: Mammals, birds, reptiles, fish, amphibians and invertebrates
- Insects: Insects, spiders, mites and some other arthropods.
- Fungi: Fungi and lichens.
- Microorganisms: Protists, bacteria and viruses.
- Plants: Vascular plants, green algae and bryophytes.

Click on the collection name or map pin to see more details.

List Map

The map shows Estonia with two location pins: one in Tallinn and one in Tartu. A legend at the bottom indicates that a pin with a yellow circle indicates multiple collections at that location.

# Thank you!

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[twitter.com/AllanZirk](https://twitter.com/AllanZirk)

<https://demo.elurikkus.ut.ee/en>

<https://github.com/TU-NHM-elurikkus>

<https://plutof.ut.ee>

<https://www.ala.org.au>

<https://getkirby.com>

<https://rollbar.com>