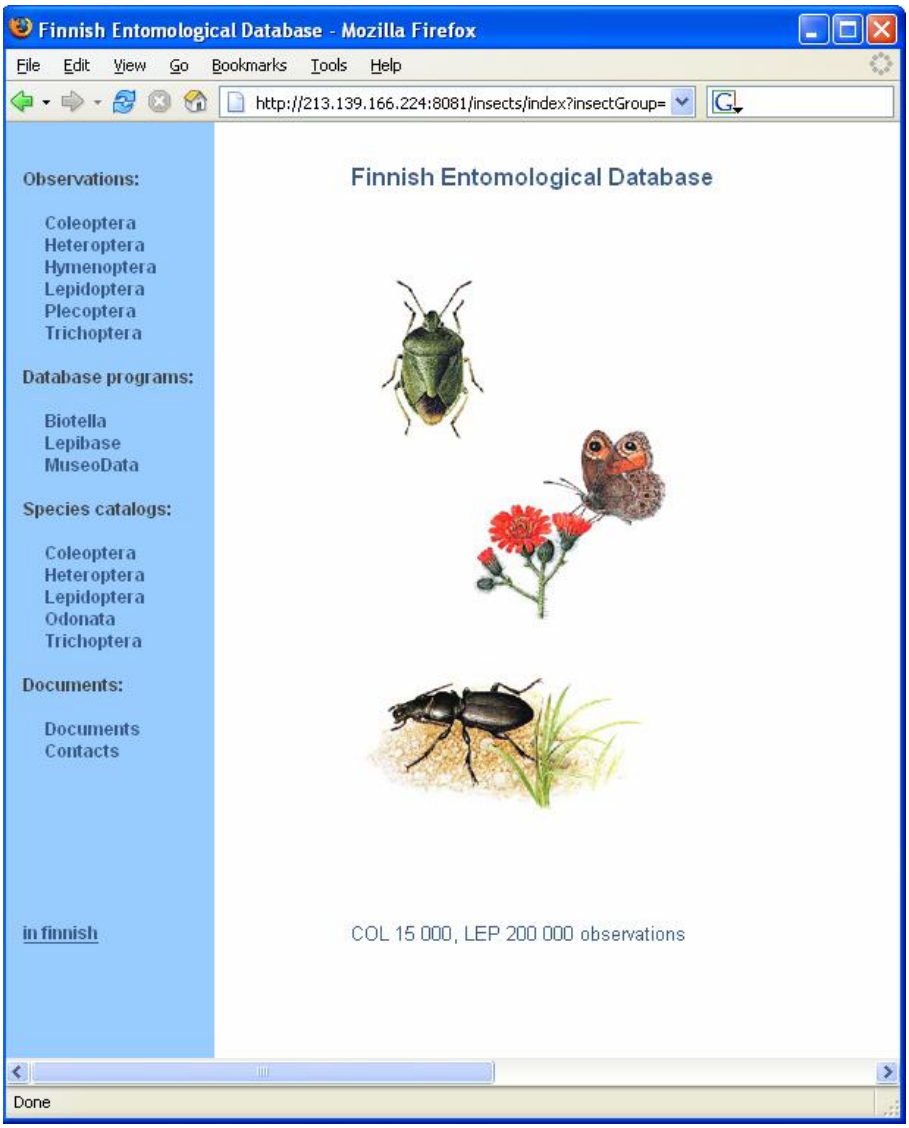
# Finnish Entomological Database – User's Guide

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# Contents

# 0. Introduction

The online insect database which is described in this document provides up-to-date information about the **distribution and abundance** of insects to both researchers and amateurs alike. The information is based on stored observational data on various groups of insects. Currently the database supports the storing of Coleoptera, Heteroptera, Hymenoptera, Lepidoptera, and Trichoptera observations.

In addition to observational data, the system contains a separate database for storing **notes** about the general biology, determination, and other interesting facts about different species. These species information databases provide a free-form source of knowledge about the biology of different species.

Thirdly, for some groups, **images** of different species are be provided for viewing. Having good images often helps amateurs to determine the specimens they have collected, and thus also indirectly supports the adding of new data to the database.

From the observation database, **atlas** documents can be periodically generated. An atlas is a book in an html format, which can be downloaded for off-line browsing. For each species, the atlas summarizes the information in the database in the form of distribution maps, phenology diagrams, and species notes. If available, thumbnail images of each species are also shown.

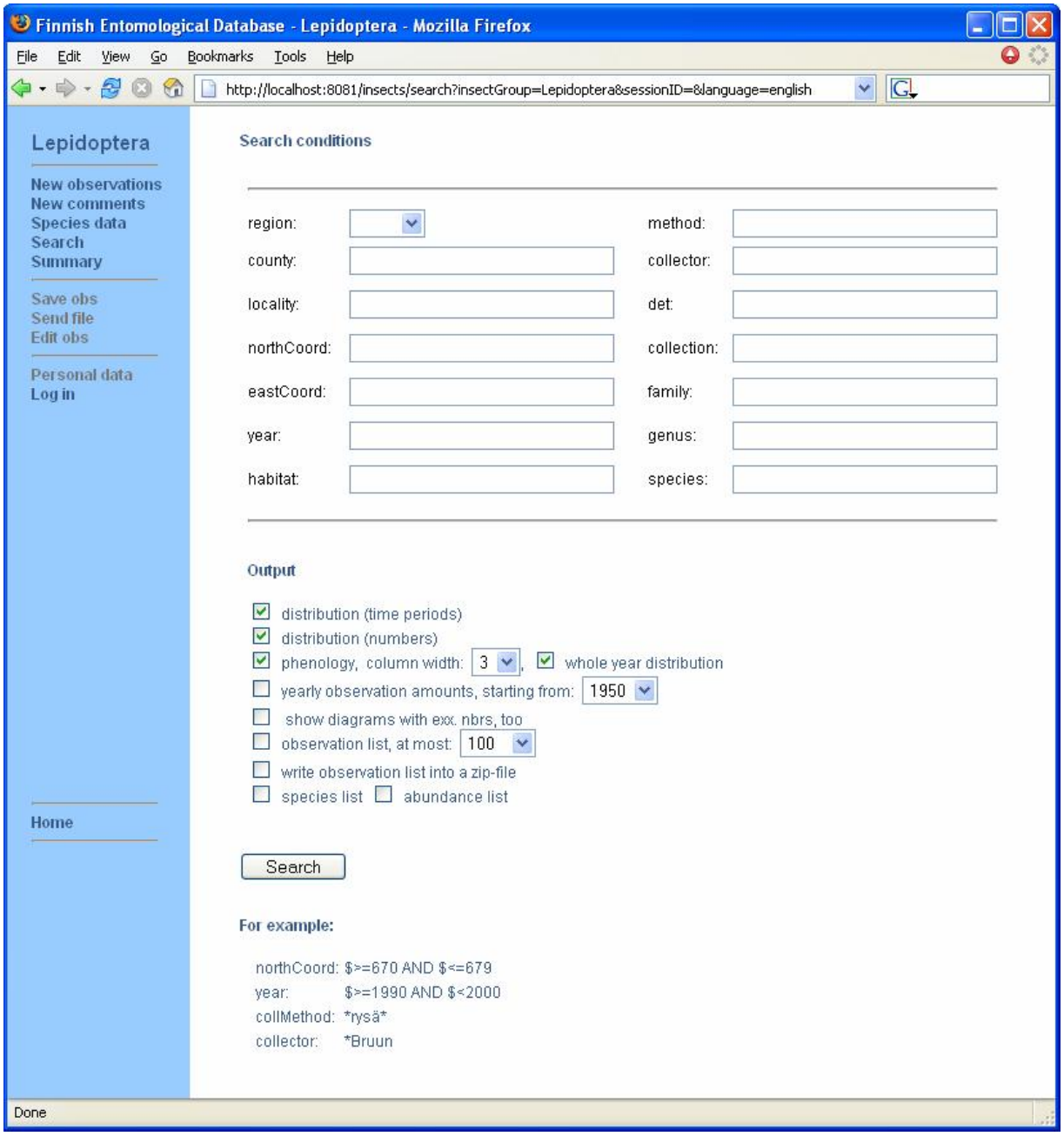
The online database has a web-based user interface which allows the storing, retrieving and analysing of insect observation data. The available services can be grouped into the following categories:

1. **Storing** new observational data
2. **Editing** existing observations
3. **Retrieving** data, distribution maps, and phenology diagrams
4. Storing species **notes** on biology, taxonomy, etc.
5. Downloading **atlas** documents
6. Browsing species **images**

In the following chapters all these categories are described in detail.

# 1. Searching the Database

The default search form, opened from the left-side link **Search**, looks the following:



## *1.1 Search Options*

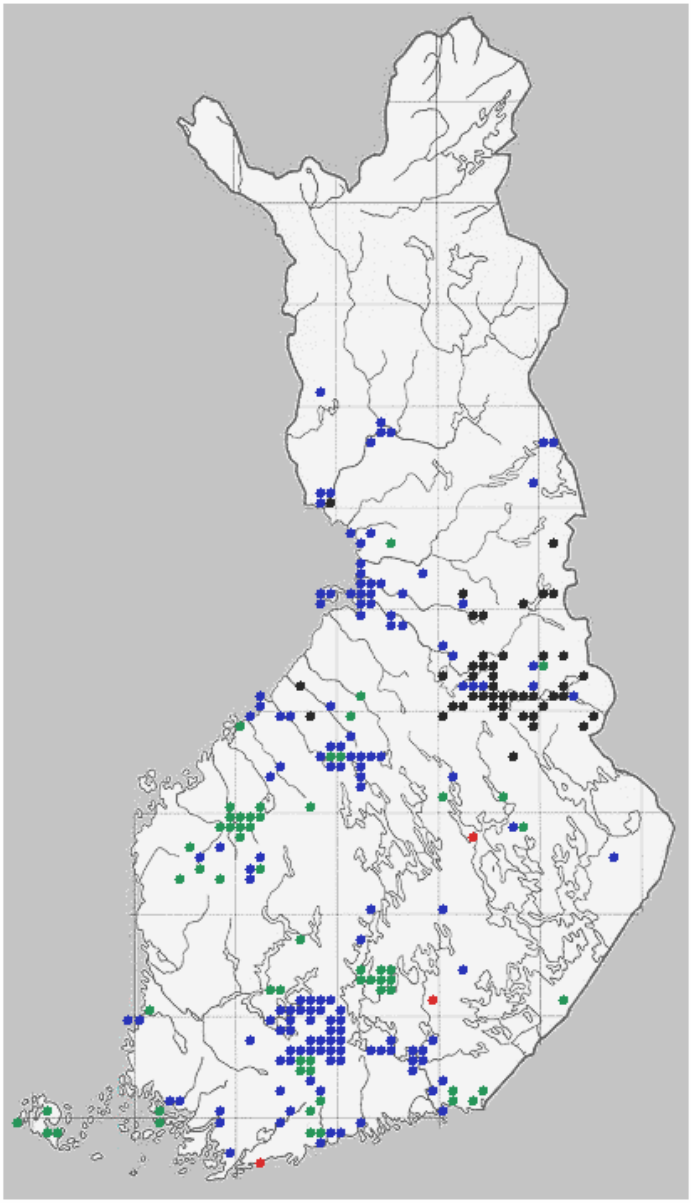
☑ distribution (time periods)

This option produces a 10x10km map of the observations. The color of a dot indicates the time period of the observations from each square. For example, a red dot means that there are no observations after the year 1949.

**Distribution map**

( genus = 'Nymphalis' ) AND ( species = 'urticae' )

?, -1949, 1950-1999, 2000-



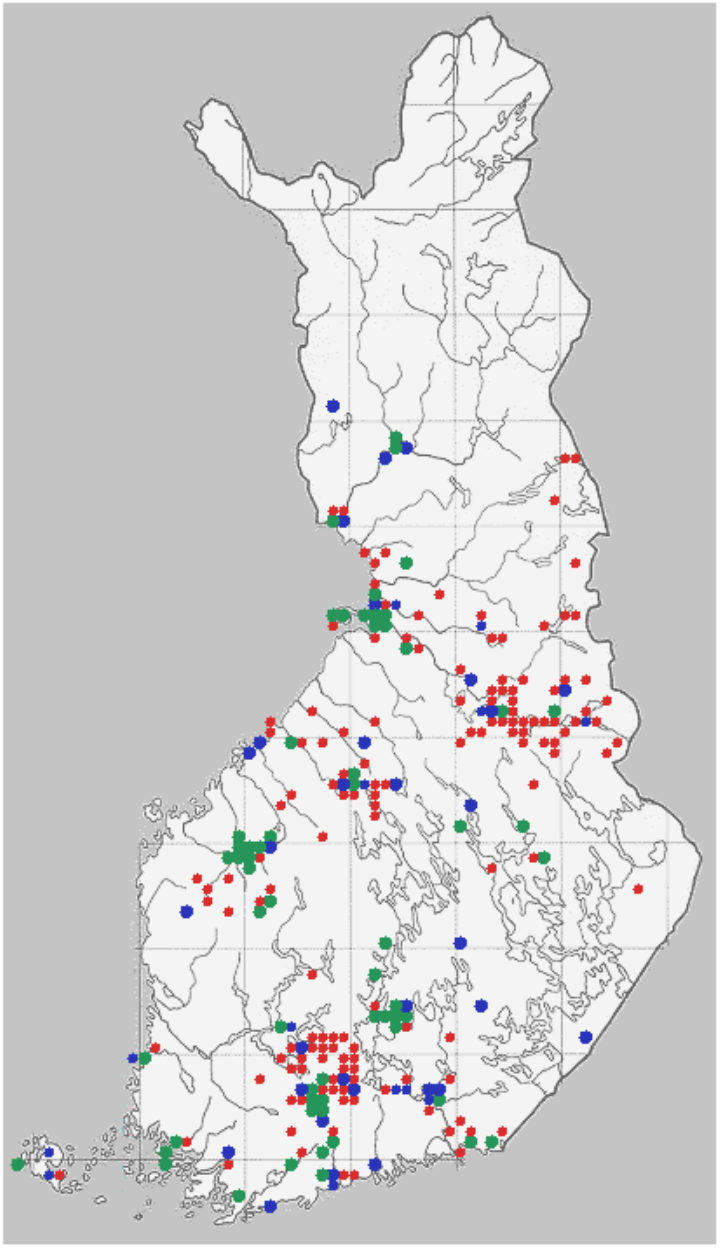
☑ distribution (numbers)

This option also produces a 10x10km map. The dot colours now indicate how many observations there are from the given square, counted over all time periods.

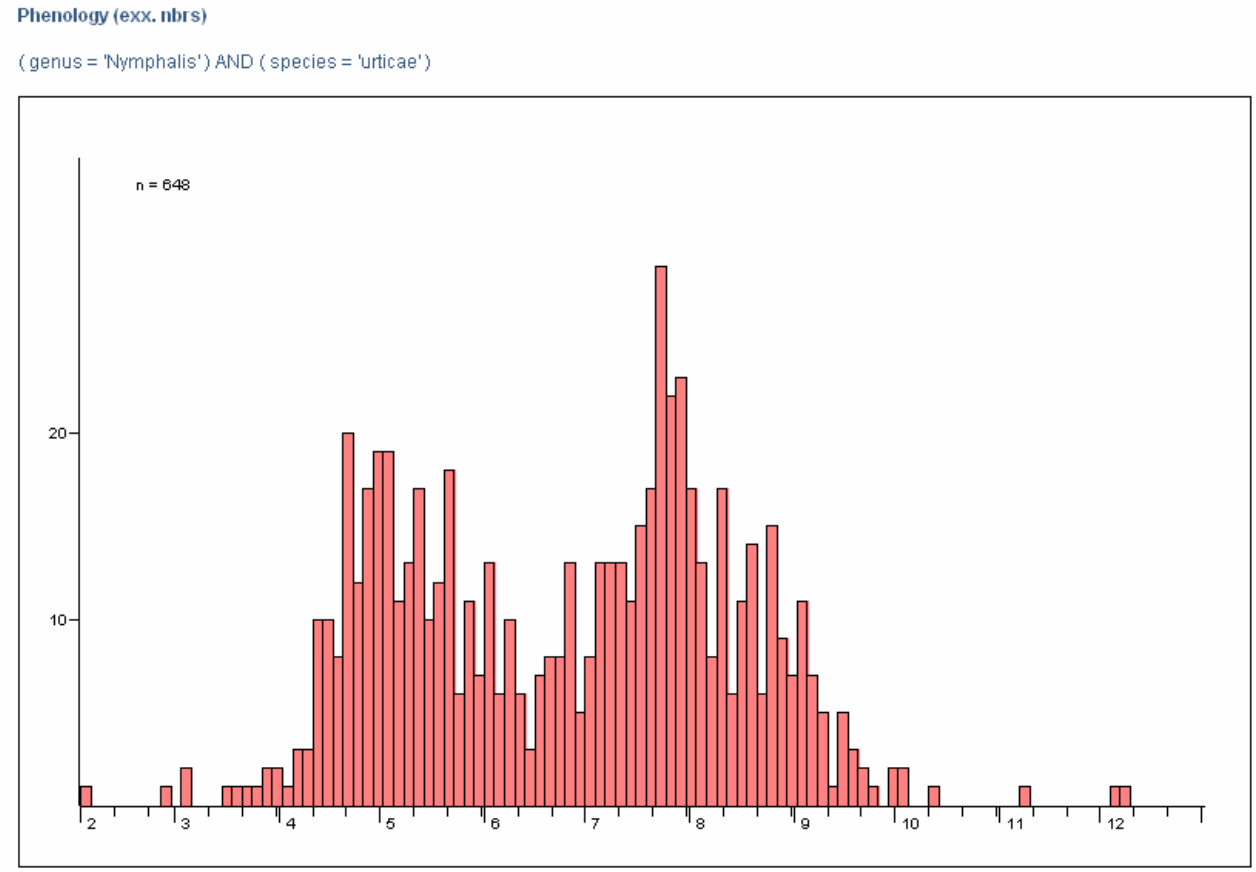
**Distribution map**

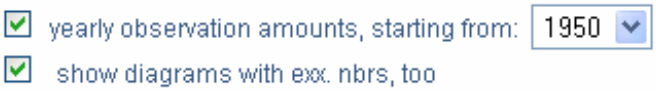
( genus = 'Nymphalis' ) AND ( species = 'urticae' )

o = 1-1, o = 2-2, O = 3-3, O = 4-




This option produces a phenology diagram based on the observed numbers of insects in different time periods.



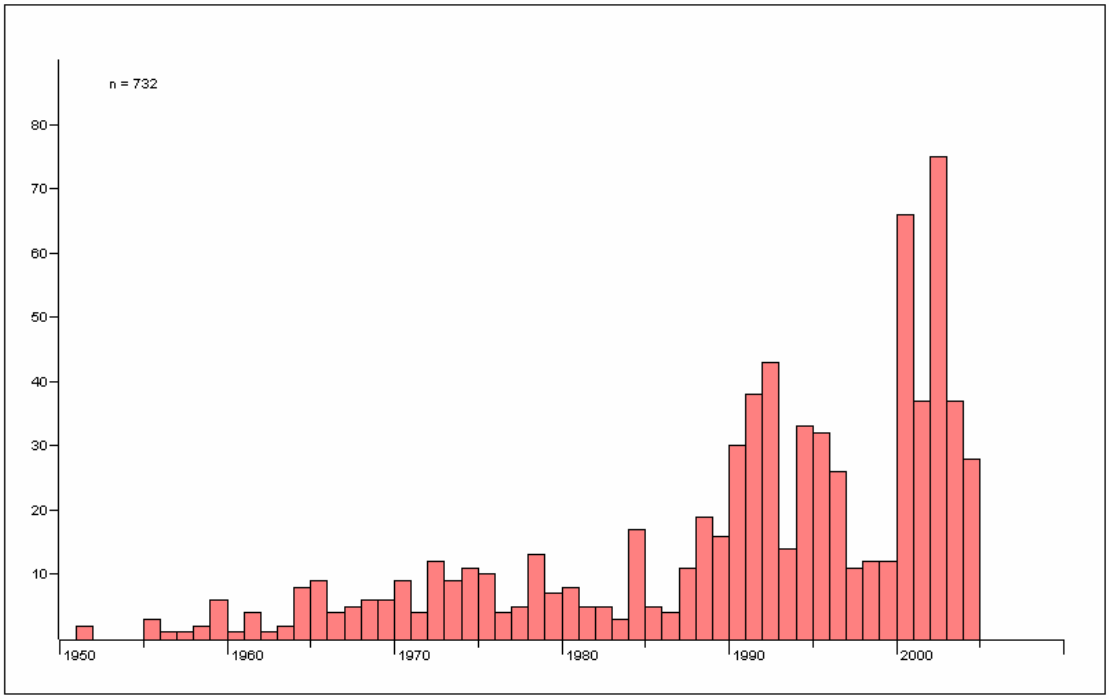




With these two options, you can study the year-to-year dynamics of the selected species or other group (see the pictures on the next page).

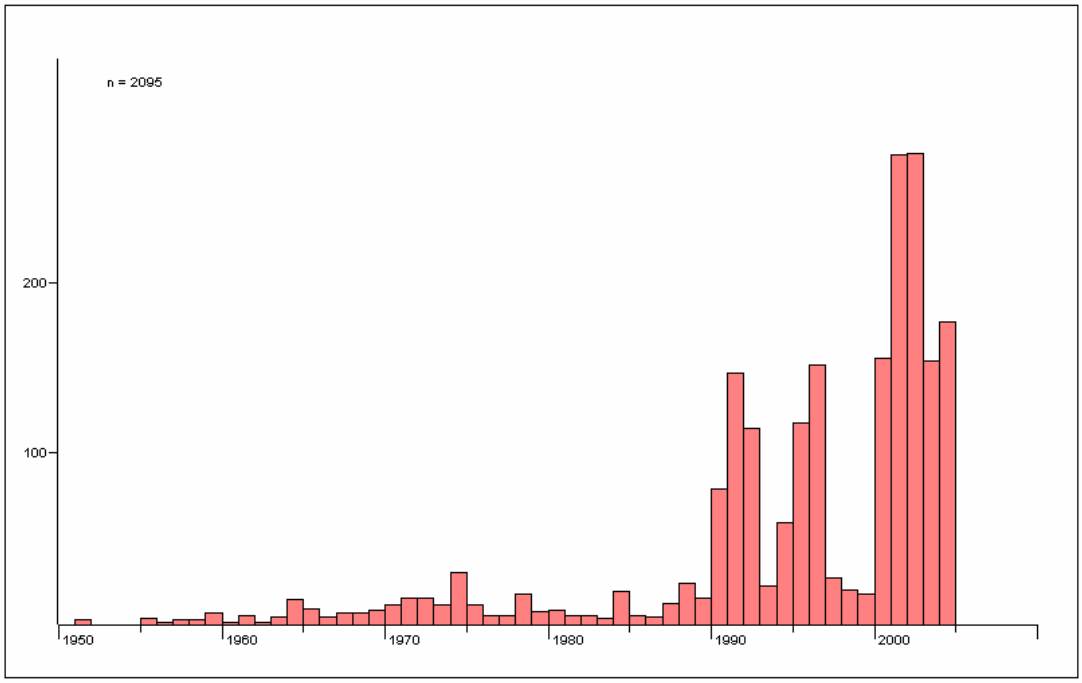
**Yearly observations (obs.nbrs)**

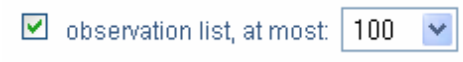
( genus = 'Nymphalis' ) AND ( species = 'urticae' )




**Yearly observations (exx.nbrs)**

( genus = 'Nymphalis' ) AND ( species = 'urticae' )






With this option you can get a listing of the observations:

There are over 100 observations, only the first 100 are listed below:

**Nymphalidae**

| | | | | | | |
|---|---|---|---|---|---|---|
| *Nymphalis urticae* | ? | 2 ex. | | | 1984 | |
| *Nymphalis urticae* | ? | 1 ex. | | | 1984 | |
| *Nymphalis urticae* | ? | 2 ex. | Ab:TURKU, Ruissalo | 671:23 | 1957 | J.Kyrki |
| *Nymphalis urticae* | ? | 1 ex. | Ab:TURKU, Ruissalo | 671:23 | 1959 | J.Kyrki |
| *Nymphalis urticae* | ? | 1 ex. | Ab:VIHTI, Haapakylä | 669:34 | 14.8.1959 | K.Kiianlinna |
| *Nymphalis urticae* | ? | 1 ex. | Ab:TURKU, Ruissalo | 671:23 | 1960 | J.Kyrki |
| *Nymphalis urticae* | ? | 1 ex. | Ab:VIHTI, Haapakylä | 669:34 | 28.5.1961 | K.Kiianlinna |
| *Nymphalis urticae* | ? | 2 ex. | Ab:VIHTI, Haapakylä | 669:34 | 6.8.1961 | K.Kiianlinna |

Note that each species name has a trailing question mark

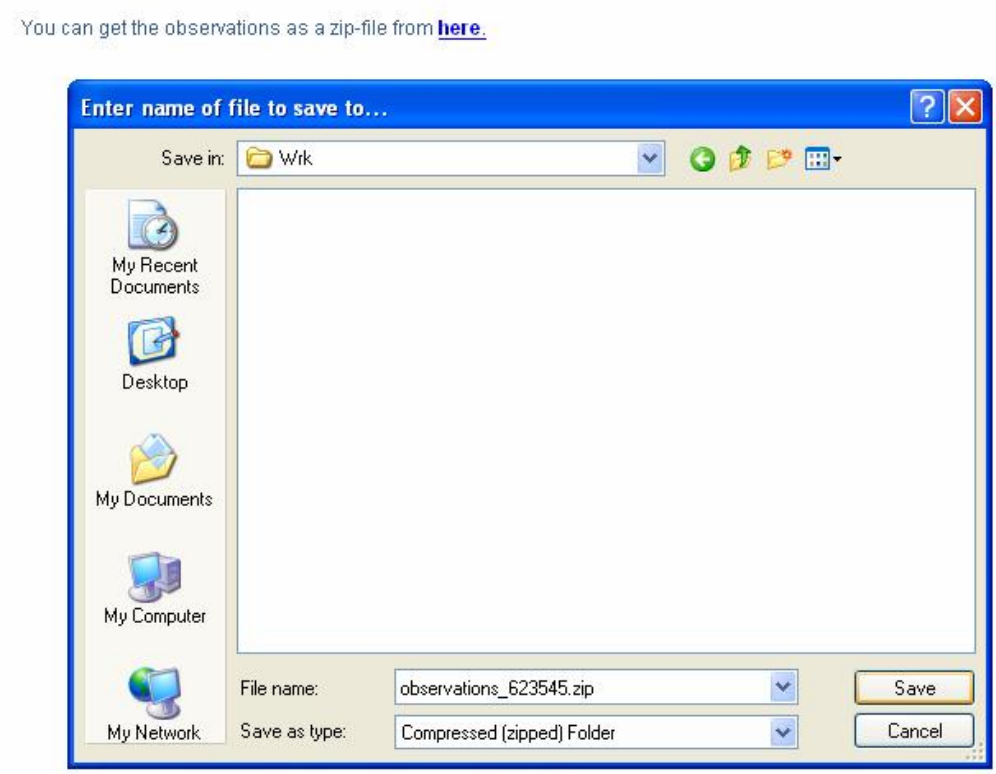
?

By clicking the question mark with the mouse, a popup window displays all the stored data about the observation.


A registered user can add a comment to an observation in the database (making a remark about the determination, commenting the time or place of observation, etc.). Please see Chapter 6 for more information about adding comments to observations.

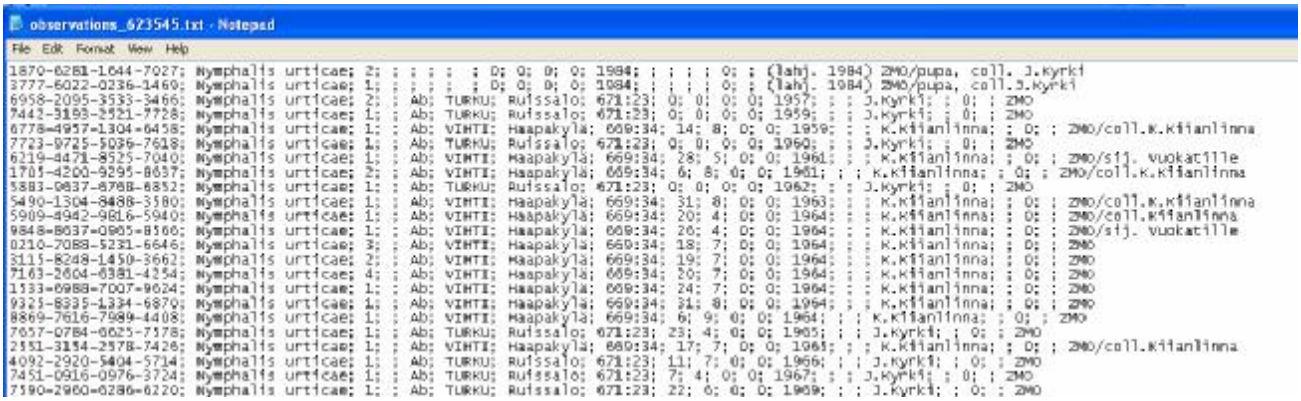
☑ write observation list into a zip-file

With this option, the resulting page will contain a download link. Pressing the link allows you to get the observations in a zip-file:




When downloaded and unzipped, the observations are available in a comma-separated form, where each observation has the following fields:

```
obsID; genus species; totalCount; devStage; region; county; locality; northCoord;
eastCoord; startDay; startMonth; endDay; endMonth; year; habitat; collectingMethod;
collector; det; detYear; collection; note
```



☑ species list ☑ abundance list

The first of these options will list all the species in a search result:

**Species list** ( region = 'ObS' )

441 species:

**Hepialidae**

Hepialus fusconebulosus

**Nepticulidae**

Stigmella betulicola
Stigmella salicis

**Gracillariidae**

Phyllocnistis labyrinthella

**Momphidae**

Mompha conturbatella

**Tortricidae**

Eana osseana
Argyroploce arbutella
Rhopobota naevana
Epinotia cruciana

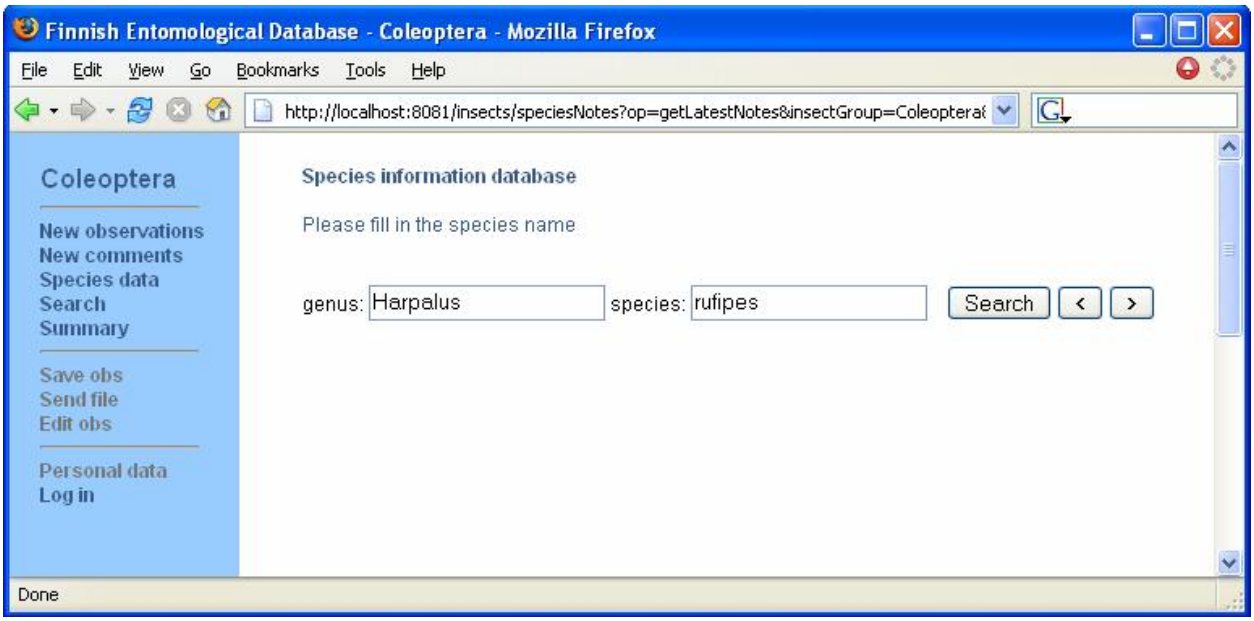
The second option shows the 100 most abundant species, arranged according to the number of **observations**, number of 10x10km **squares**, and the number of observed **individuals**.

**The most abundant species** ( region = 'ObS' )

| | observations | | squares | | exx. | |
|---|---|---|---|---|---|---|
| 1 | Amphipoea fucosa | 209 | Pieris napi | 29 | Cerapteryx graminis | 3568 ex. |
| 2 | Cerapteryx graminis | 156 | Lycaena virgaureae | 26 | Eulithis populata | 3147 ex. |
| 3 | Syngrapha interrogationis | 140 | Callophrys rubi | 26 | Hydriomena furcata | 2814 ex. |
| 4 | Orthosia gothica | 136 | Brenthis ino | 24 | Dysstroma citratum | 2628 ex. |
| 5 | Parastichtis suspecta | 125 | Nymphalis urticae | 23 | Epirrita autumnata | 2576 ex. |
| 6 | Apamea lateritia | 124 | Albulina optilete | 21 | Ematurga atomaria | 2202 ex. |
| 7 | Dysstroma citratum | 121 | Phragmatobia fuliginosa | 21 | Eupithecia pusillata | 1812 ex. |
| 8 | Euxoa cursoria | 119 | Nymphalis antiopa | 21 | Entephria caesiata | 1061 ex. |
| 9 | Diarsia mendica | 117 | Scoliopteryx libatrix | 20 | Syngrapha interrogationis | 1019 ex. |
| 10 | Lithomoia solidaginis | 113 | Xestia speciosa | 20 | Orthosia gothica | 988 ex. |
| 11 | Pieris napi | 108 | Colias palaeno | 20 | Diarsia mendica | 971 ex. |
| 12 | Eurois occultus | 105 | Orgyia antiqua | 19 | Lithomoia solidaginis | 931 ex. |
| 13 | Chersotis cuprea | 104 | Hyles gallii | 19 | Amphipoea fucosa | 916 ex. |
| 14 | Epirrita autumnata | 103 | Hillia iris | 19 | Mesotype didymata | 865 ex. |
| 15 | Phragmatobia fuliginosa | 102 | Boloria selene | 19 | Euxoa cursoria | 832 ex. |

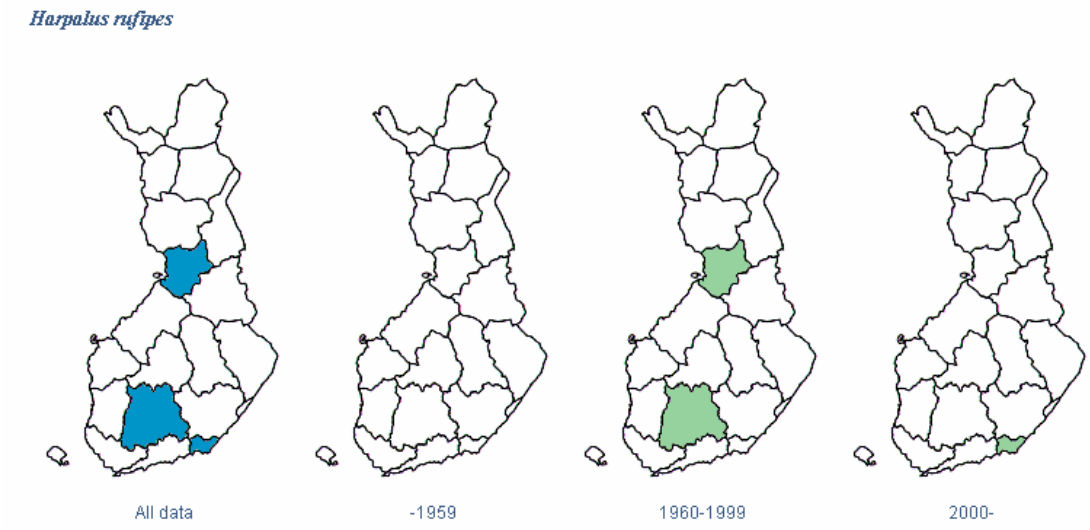
# 2. Browsing Species Data

By using a database search, you can get the latest, up-to-date information about a certain species, based on the current observational data. Another alternative to get information about the distribution and phenology of a species is to use a special species information form. By clicking the link **Species data**, the following form is displayed:

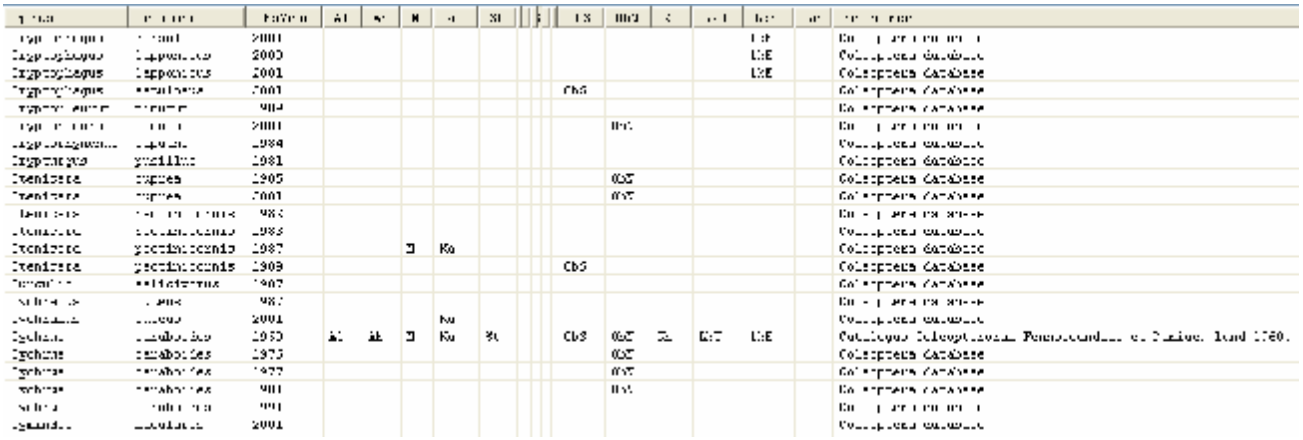



After typing in the desired species name, you will see the following information about the species:

## *2.1. Region Maps for Different Periods*



The region maps are based on a separate provincial distribution database. If a given species has been found in a given region in a given year, it will have a corresponding record in the provice database. For example, the (Coleoptera, Cryptophagidae) species *Cryptophagus lapponicus* has been found in LkE both in year 2000 and 2001:



The stored observation record for this information can be found in the observation database, which is indicated by the reference '`Coleoptera database`'. Whenever a new observation is stored into the observation database, the province database is updated, too.

For example, a search in the observation database for *Cryptophagus lapponicus* shows the following result:

11 observations:

**Cryptophagidae**

| | | | | | | |
|---|---|---|---|---|---|---|
| *Cryptophagus lapponicus* | ? 2 ex. | LkE:Sodankylä, Mutenia | 754:51 | 16.6.2000 | J. Itämies & O. Nenonen |
| *Cryptophagus lapponicus* | ? 1 ex. | LkE:Sodankylä, Mutenia | 754:51 | 29.6.2000 | J. Itämies & O. Nenonen |
| *Cryptophagus lapponicus* | ? 1 ex. | LkE:Sodankylä, Mutenia | 754:51 | 30.6.2000 | J. Itämies & O. Nenonen |
| *Cryptophagus lapponicus* | ? 1 ex. | LkE:Sodankylä, Mutenia | 754:51 | 30.6.2000 | J. Itämies & O. Nenonen |
| *Cryptophagus lapponicus* | ? 1 ex. | LkE:Sodankylä, Mutenia | 754:51 | 20.7.2000 | J. Itämies & O. Nenonen |
| *Cryptophagus lapponicus* | ? 1 ex. | LkE:Sodankylä, Mutenia | 754:51 | 18.6.2001 | J. Itämies & O. Nenonen |
| *Cryptophagus lapponicus* | ? 1 ex. | LkE:Sodankylä, Mutenia | 754:51 | 18.6.2001 | J. Itämies & O. Nenonen |
| *Cryptophagus lapponicus* | ? 2 ex. | LkE:Sodankylä, Mutenia | 754:51 | 16.8.2001 | J. Itämies & O. Nenonen |
| *Cryptophagus lapponicus* | ? 1 ex. | LkE:Sodankylä, Mutenia | 754:51 | 16.8.2001 | J. Itämies & O. Nenonen |
| *Cryptophagus lapponicus* | ? 2 ex. | LkE:Sodankylä, Mutenia | 754:51 | 13.9.2001 | J. Itämies & O. Nenonen |
| *Cryptophagus lapponicus* | ? | Ta:Lempäälä, Peräkulo | 6810:335 | 1999 | Juha Salokannel |

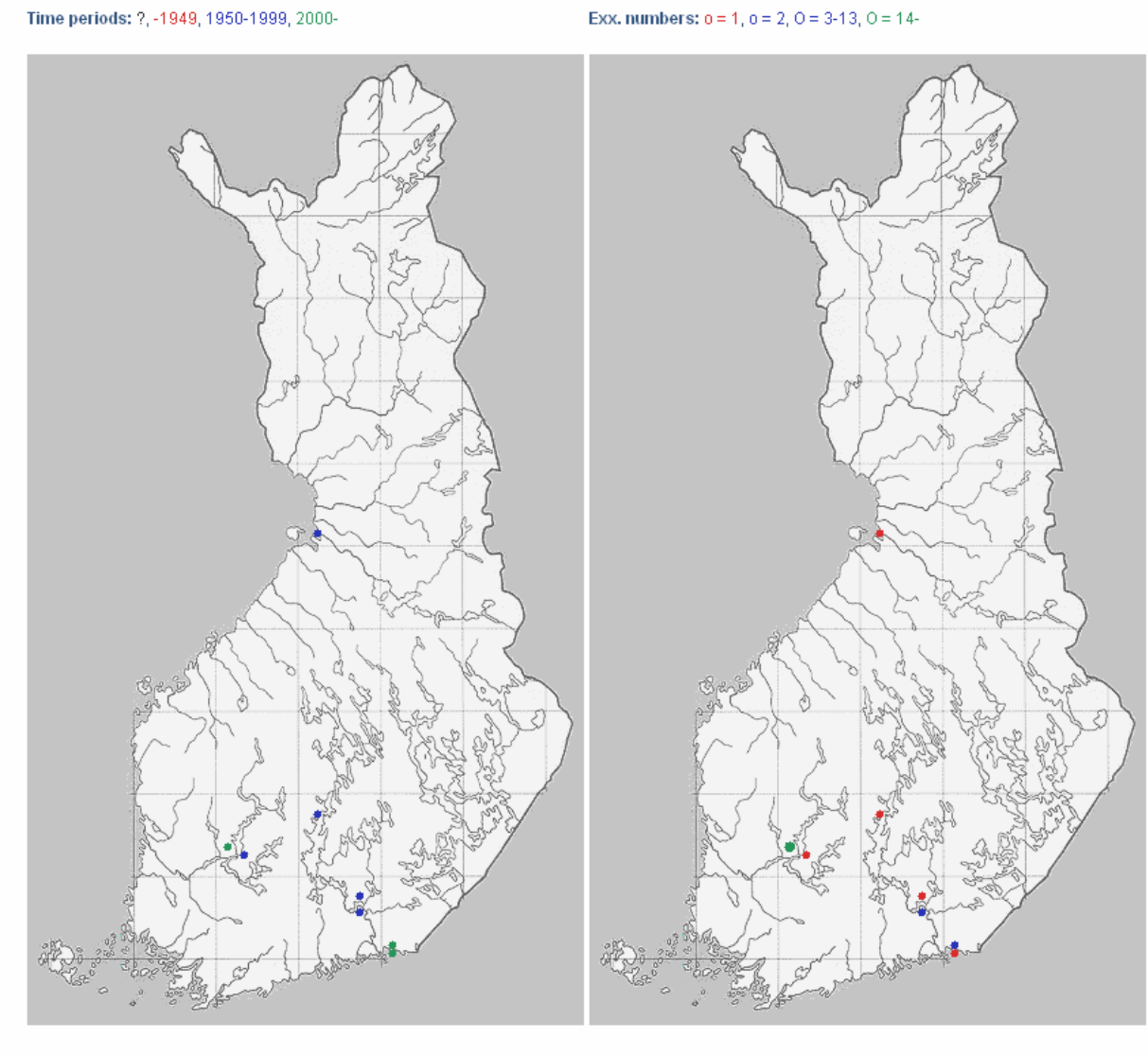
In the above provice database table, the record for *Cychrus caraboides* has for year 1959 the reference

```
Catalogus Coleopterorum Fennoscandiae et Daniae, Lund 1960.
```

This shows that in addition to observational data, provincial data records in the province database can be based also on other information. For example, an authorized database manager can add published provincial data from books, journals, etc. to the province database.

## *2.2. Distribution Maps*

The species data will also include 10x10km distribution maps for different time periods and numbers of individuals:

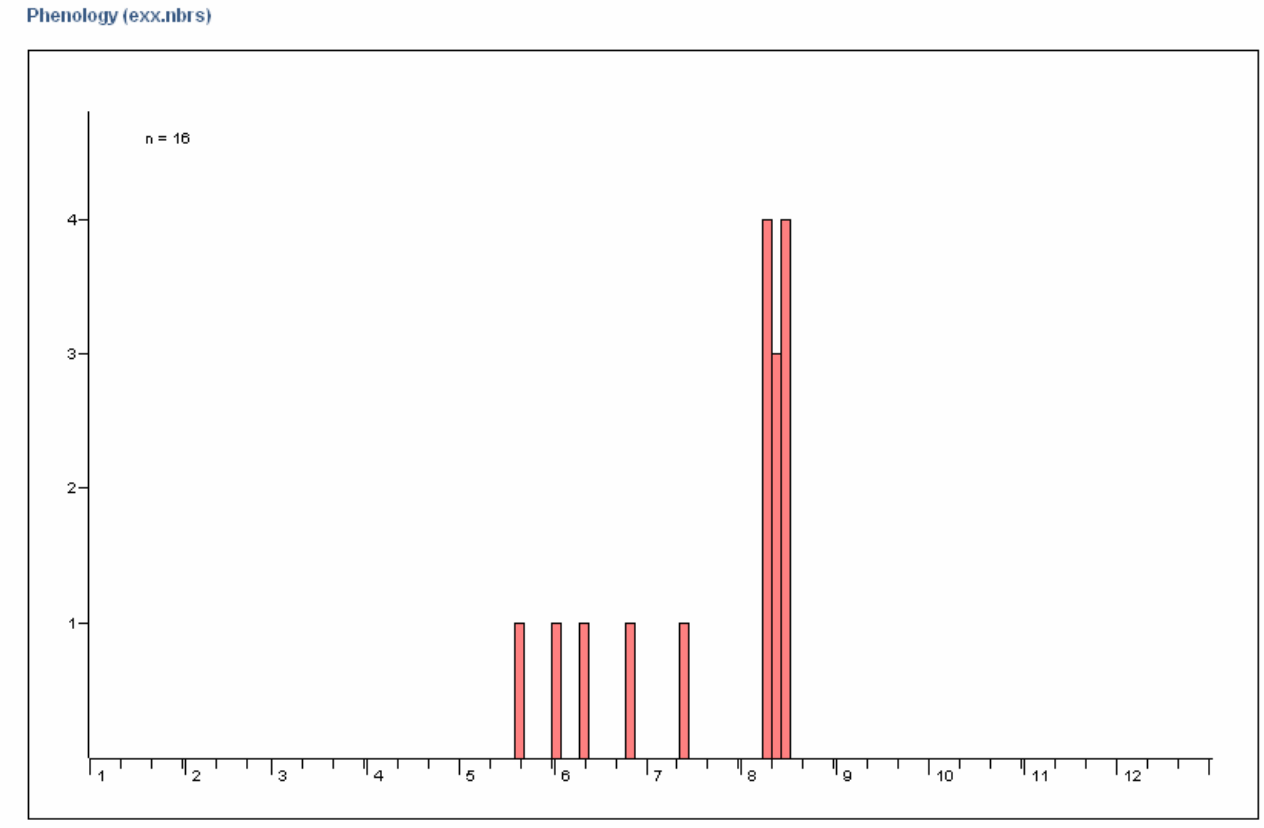



Note that the distribution maps are *not* dynamically generated each time a user request information for a species using the **species data** operation. Instead, the maps are periodically created from the current database information, and stored as permanent images. By this way extensive database searches can be avoided when presenting species information.

If you need really up-to-date information about the distribution of a species, you can always perform a database **search**. A search operation always creates the maps anew, based on the currently available database observations.

## 2.3. A Phenology Diagram

A phenology diagram, based on the number of observed individuals, gives information about the time of occurrence of the species:




Note that the phenology diagram is based on only such observation records, where the date is a single day.

## 2.4. The 3 Earliest and 3 Latest Observations for Each Province

The three earliest and three latest observations for each province are also listed:

| | 3 earliest obs | 3 latest obs |
|---|---|---|
| Ka | **10.08.**2001 **13.08.**2001 | **10.08.**2001 **13.08.**2001 **14.08.**2001 |
| Ta | **21.05.**1981 **31.05.**1982 **24.06.**1985 | **24.06.**1985 **14.07.**1989 **08.08.**1986 |
| ObS | **10.06.**1997 | **10.06.**1997 |

## *2.5. A List of Collectors Who Have Made the Largest Number of Observations for the Species*

The following list of collectors is also shown (here for the ground beetle *Harpalus rufipes*):

| | exx. | | obs. |
|---|---|---|---|
| Juha Salokannel | 24 | S. Karjalainen | 8 |
| S. Karjalainen | 17 | M. Pentinsaari | 1 |
| M. Pentinsaari | 1 | M. Kylmäperä | 1 |
| M. Kylmäperä | 1 | Juha Salokannel | 1 |
| Seppo Karjalainen | 1 | Seppo Karjalainen | 1 |
| Jani Kirjavainen | 1 | Jani Kirjavainen | 1 |

*Last updated 29.01.2005.*

For *Harpalus rufipes*, there are no stored user comments. However, for example for the butterfly *Jodis lactearia*, the species data also shows the following user notes:

## *2.6. Species Notes Added by the Users*

**30.01.2001 Jaakko Kullberg (sfnet.harrastus.perhoset):**

Örössä *J. lactearia* on välillä aika runsas - tollaset 10 exx/rysä paikoillaan. Parhaita mestoja ruohoja kasvavat val
rantalepikot. On ainakin ulkosaaristossa biotoopillaan monin verroin putataa runsaampi.
Lähtekää pois kankailta ja mustikkapaikoilta. Saa olla niittyä ja metsänreunaa, mutta rehvämpien vähän lehtoma

**30.01.2001 Matti Ahola (sfnet.harrastus.perhoset):**

Vaikka *J.lactearian* sanotaan elävän monilla lehtipuilla ja mustikalla, olen toukkia löytänyt ainoastaan lehmukselt
siis aikuisista, on kerätty lehtomaisilta reheviltä paikoilta, varsinkin lehmusmetsiköistä. Mulle on päässyt syntymä
etsiä etupäässä lehmusmetsistä.

**31.01.2001 Kimmo S. (sfnet.harrastus.perhoset):**

Olen viimeksi havainnut *lactearia* runsaammin 25 v. sitten Ahvenanmaalla. Muistaakseni imagot olivat liikkeellä
olen kyllä löytänyt muutamia toukkia: Jurmossa melko tiheästä tervaleppämetsiköstä, Paraisilla harvakseltaan ta
havainnot elo- syyskuun vaihteen lähellä. Jos imagoja ei kesäkuussa näy, voi ehkä vielä loppukesällä pistäytyä p
esiintyvän vakituisilla keräilypaikoillani (eivät ole lehtoja).

**01.02.2001 Jaakko Kullberg (sfnet.harrastus.perhoset):**

Lajilla on usein elokuussa toinen polvi lounaassa.

**07.12.2002 kimmo keinänen:**

Havainnot 6699:370 , 2000-2002, noin 35 havaintoa, tukevat vahvasti sitä, että laji lentää myöhään yöllä, ja suurin
klo 02.00 jälkeen.(Valorysät tarkistettu 01.45-02.00)

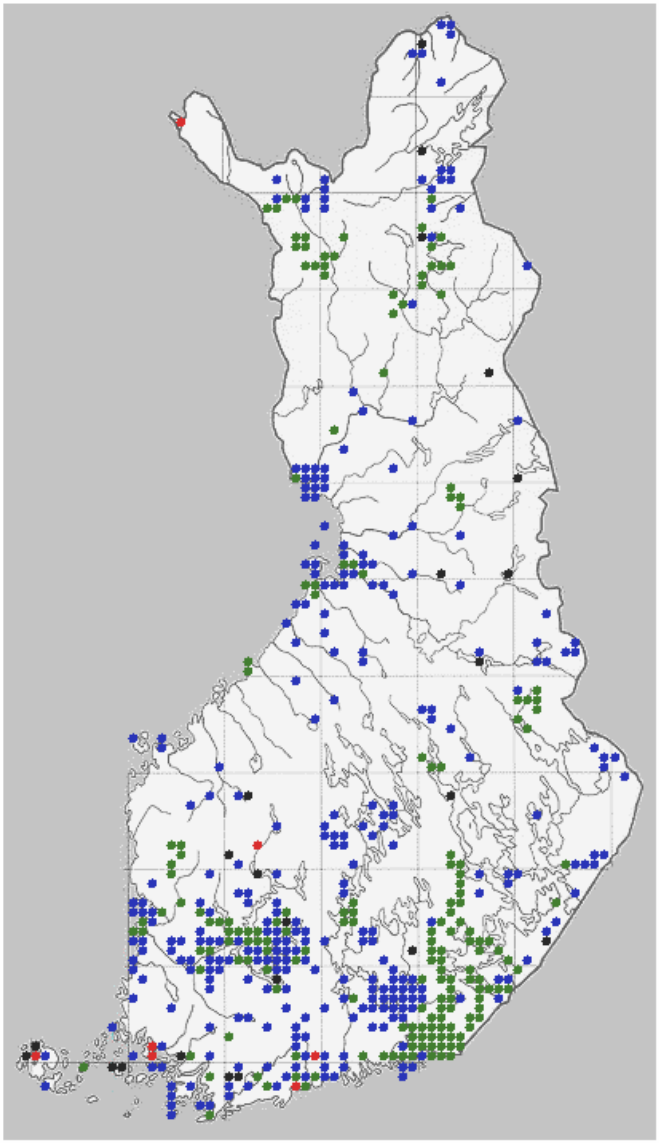
# 3. Getting Summary Information

Pressing the link **Summary** shows, for the selected insect group, summary information about all the observations in the database. This includes a map showing locations from where observations have been made:

Summary for Coleoptera updated 29.01.2005

Geographical distribution of observations

?, -1949, 1950-1999, 2000-



Various cross tabulations are also shown, for example, a table displaying the number of observations from each geographical province in each of the decades 1900-09, …, 2000-2009:

**Regions**

| | 1900-09 | 1910-19 | 1920-29 | 1930-39 | 1940-49 | 1950-59 | 1960-69 | 1970-79 | 1980-89 | 1990-99 | 2000-09 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al | - | 5 | 1 | 6 | 10 | - | 2 | 2 | - | - | 1 | **27** |
| Ab | - | 1 | 1 | 2 | 89 | 31 | 22 | 17 | 24 | 83 | 47 | **317** |
| N | 3 | 14 | 14 | 4 | 31 | 103 | 23 | 30 | 187 | 94 | 146 | **649** |
| Ka | - | - | - | - | - | - | - | 10 | 67 | 163 | 2064 | **2304** |
| St | - | - | - | - | 1 | 11 | 7 | 18 | 84 | 165 | 461 | **747** |
| Ta | - | 1 | - | 2 | 10 | 3 | 10 | 2 | 946 | 637 | 1163 | **2774** |
| Sa | - | - | - | 6 | 6 | - | 2 | 5 | 123 | 28 | 683 | **853** |
| Kl | - | - | - | - | - | - | - | - | 5 | 3 | - | **8** |
| Oa | - | - | - | - | 2 | - | 1 | 1 | 6 | 1 | 167 | **178** |
| Tb | - | - | - | - | 4 | - | 2 | 1 | 47 | 56 | - | **110** |
| Sb | - | - | - | - | 2 | 12 | 1 | 1 | - | 18 | 51 | **85** |
| Kb | - | - | - | 1 | 1 | - | - | - | 14 | 30 | 64 | **110** |
| Om | - | - | - | 1 | - | 12 | 1 | 2 | 13 | 8 | 187 | **224** |
| Ok | - | 4 | 2 | - | - | 20 | - | 2 | 2 | 57 | - | **87** |
| ObS | - | 1 | - | 11 | 2 | 1 | 110 | 32 | 133 | 396 | 1068 | **1754** |
| ObN | - | - | - | - | 1 | 2 | 2 | 649 | 343 | 177 | 231 | **1405** |
| Ks | - | - | - | 1 | - | - | 10 | 14 | 2 | 2 | 95 | **124** |
| LkW | - | - | - | - | - | 4 | - | - | 1 | - | 197 | **202** |
| LkE | 2 | - | - | - | - | - | - | 2 | 15 | - | 1777 | **1796** |
| Le | 1 | - | 39 | - | - | - | 28 | 1 | 8 | 65 | 55 | **197** |
| Li | 1 | - | - | 3 | 3 | - | - | - | 89 | 73 | 1 | **170** |
| | 1900-09 | 1910-19 | 1920-29 | 1930-39 | 1940-49 | 1950-59 | 1960-69 | 1970-79 | 1980-89 | 1990-99 | 2000-09 | |
| | **7** | **26** | **57** | **37** | **162** | **199** | **221** | **789** | **2109** | **2056** | **8458** | **14121** |

If the species catalog contains species frequency values, then the observations of rare species ( with freq >= 80 p.) are also listed:

**Rare species**

**80 p.**

*Dromius longiceps* 3 ex.
N:Hanko, Svanvik 6642:284 19.9.1998
Salokannel, Mattila & Kir leg.
Diamina 1999

*Deronectes latus* 1 ex.
Ks:PAANAJÄRVI <date not given>
Platonoff leg.
ZMO/Coll:Karvonen 6453

*Deronectes latus* 1 ex.
Ks:PAANAJÄRVI <date not given>
Platonoff leg.
ZMO ,6461

Finally, a list of the most active collectors is also shown:

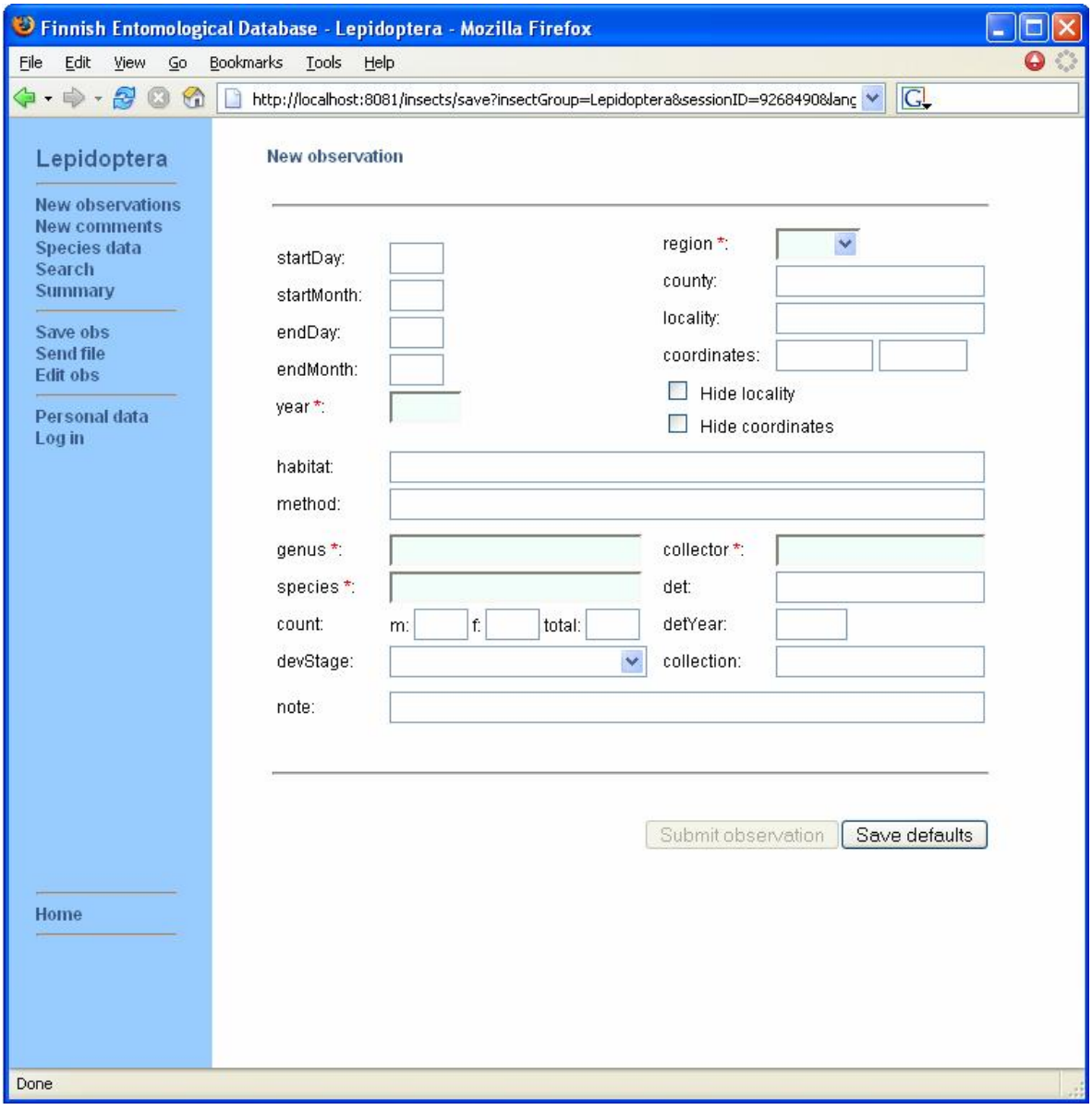
**Collectors**

| | Al | Ab | N | Ka | St | Ta | Sa | Kl | Oa | Tb | Sb | Kb | Om | Ok | ObS | ObN | Ks | LkW | LkE | Le | Li | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S. Karjalainen | - | 4 | 192 | 1804 | 10 | 522 | 465 | - | - | - | 16 | - | 90 | - | - | - | - | - | 5 | - | - | **3108** |
| M. Pentinsaari | - | 99 | 57 | 341 | 32 | 3 | 309 | - | - | 2 | - | - | 82 | - | 1382 | 254 | 95 | 144 | 106 | - | - | **2906** |
| Pekka Valtonen | - | 43 | 49 | 3 | 231 | 715 | 46 | 5 | 5 | 91 | 51 | 92 | 13 | 49 | 7 | - | - | 53 | 10 | 128 | 162 | **1753** |
| J. Itämies & O. Nenonen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1586 | - | - | **1586** |
| Juha Salokannel | - | - | - | - | 398 | 1091 | - | - | - | 3 | - | - | - | - | - | - | - | - | 82 | - | - | **1574** |
| M. Virtala | - | 1 | 1 | - | - | - | 3 | - | - | - | - | 7 | - | - | 150 | 1128 | - | 1 | 2 | - | - | **1293** |
| Karvonen | - | 14 | 146 | 10 | - | 4 | 4 | - | - | - | - | - | - | 1 | 3 | - | - | - | - | 34 | 2 | **218** |
| R. Linnavuori | 8 | 82 | - | - | - | 19 | 8 | - | - | - | 11 | 3 | 13 | 20 | - | - | 9 | - | 1 | - | - | **174** |
| Jukka Salmela | - | - | - | - | - | - | - | - | 164 | - | - | - | - | - | - | - | - | - | - | - | - | **164** |
| U. Sahlb. | - | 16 | 20 | 6 | 1 | 14 | 10 | 4 | 2 | 1 | - | 1 | - | - | - | 6 | - | 14 | - | 10 | 17 | **122** |
| Raimo Paakasuo | - | - | - | - | 1 | 121 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **122** |
| U. Saalas | - | 38 | 26 | 4 | 2 | 10 | 2 | 3 | 1 | 11 | - | 2 | - | 3 | 1 | 1 | 2 | 5 | - | 1 | 1 | **113** |
| Seppo Karjalainen | - | - | - | 112 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **112** |
| Jani Kirjavainen | - | - | 2 | - | - | 101 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **103** |
| | **Al** | **Ab** | **N** | **Ka** | **St** | **Ta** | **Sa** | **Kl** | **Oa** | **Tb** | **Sb** | **Kb** | **Om** | **Ok** | **ObS** | **ObN** | **Ks** | **LkW** | **LkE** | **Le** | **Li** | |
| | **61** | **436** | **741** | **2314** | **752** | **2824** | **890** | **20** | **181** | **127** | **96** | **117** | **226** | **145** | **1757** | **1415** | **150** | **230** | **1797** | **216** | **210** | **14705** |

# 4. Storing New Observations

## *4.1. The Data Input Form*

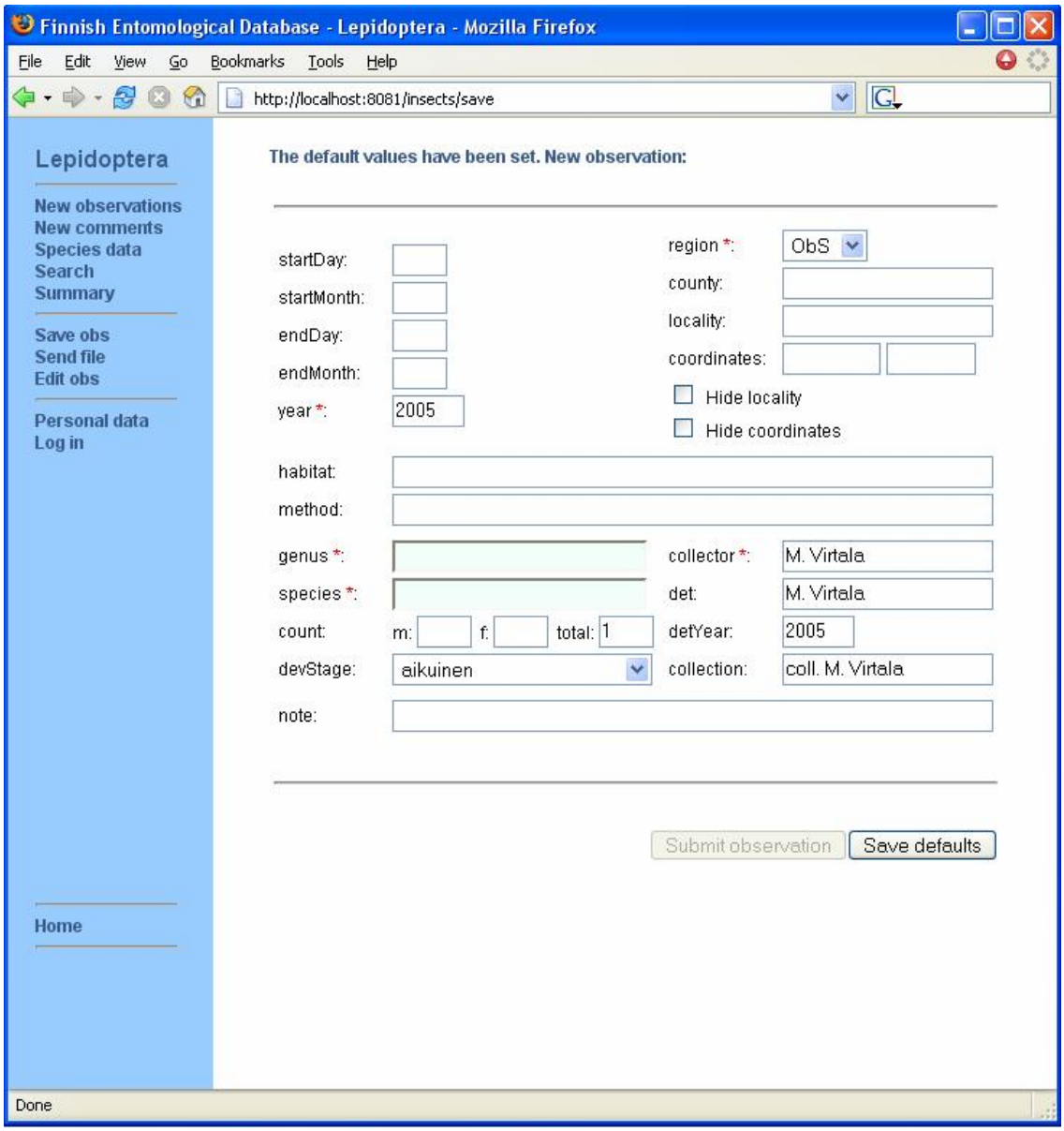
After a succesful log-in (see Chapter 8, User Management), the **Save obs**, **Send file**, and **Edit obs** links on the left side will be enabled. Pressing the save obs link displays the following input form:



To make the storing of new observations easier, each user can define his default values for the following fields

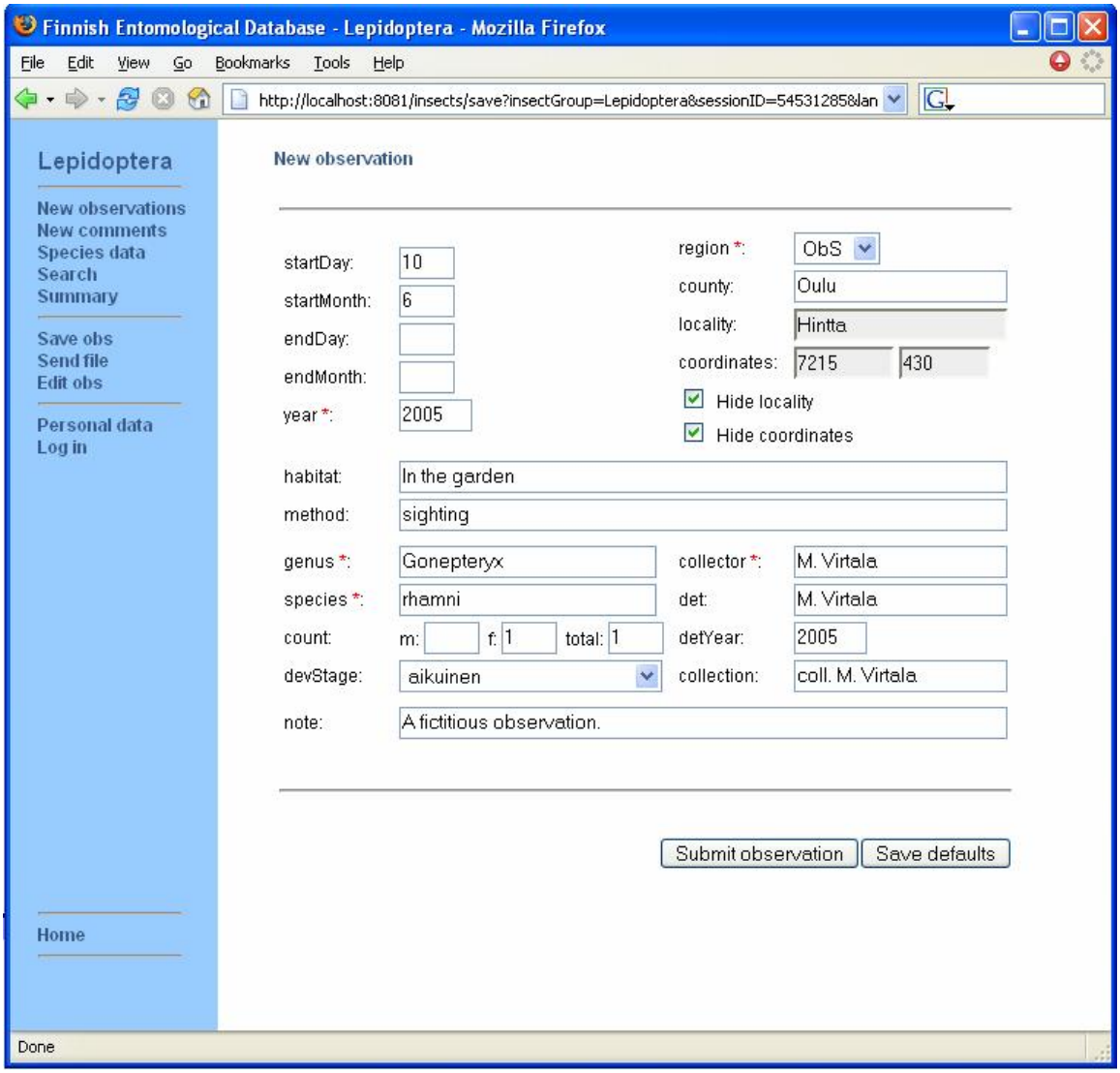
```
startDay, startMonth, endDay, endMonth, year, region, county, locality,
northCoord, eastCoord, habitat, collectingMethod, totalCount, devStage,
collector, det, detYear, collection
```

After storing appropriate default values, the input form may look like to following:

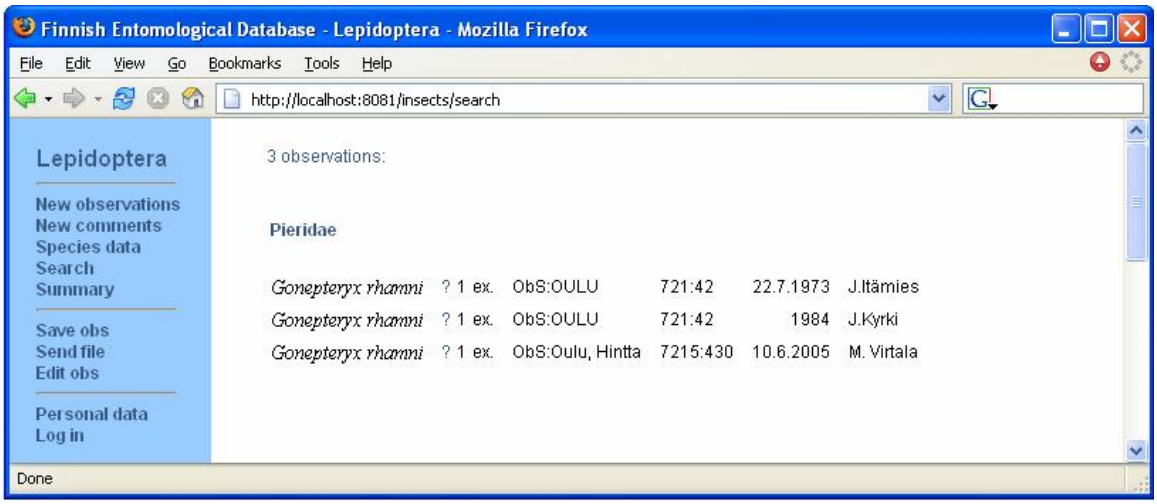



In some cases, a collector may want to hide the exact locality and coordinates of an observation. This can be done by selecting the corresponding check boxes. We will now store a fictitious observation to illustrate the

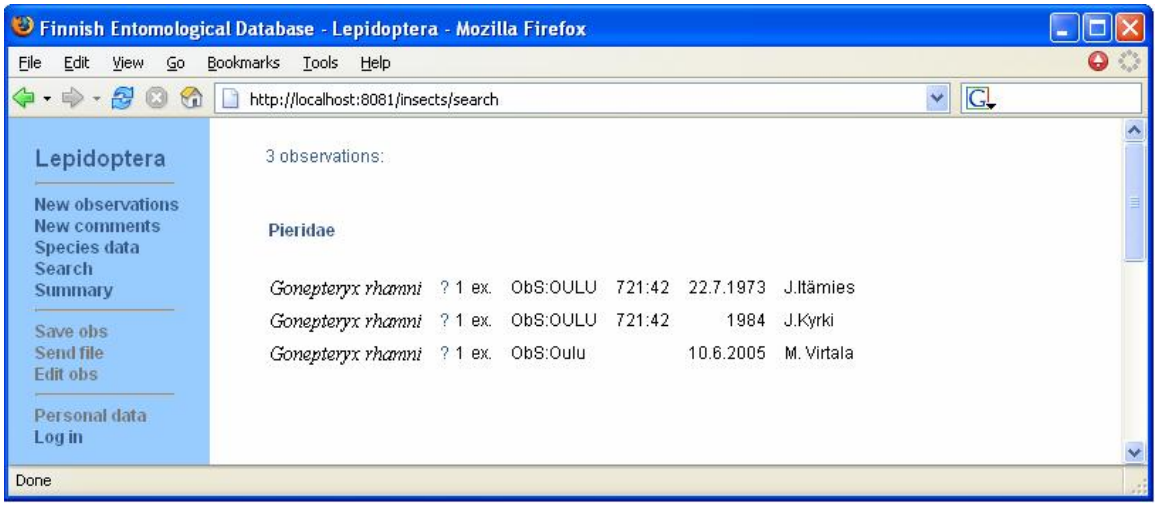
hiding of sensitive data. Our observation is as follows:




After storing the observation, a search for ‘Oulu’ and ‘Gonepteryx’ produces the following list of observations:




As can be seen, the hidden locality and coordinates are fully visible. This, however, is the case only when the user who has logged in is the same user who originally stored the observation. For all other users, the results of the search will be the following:

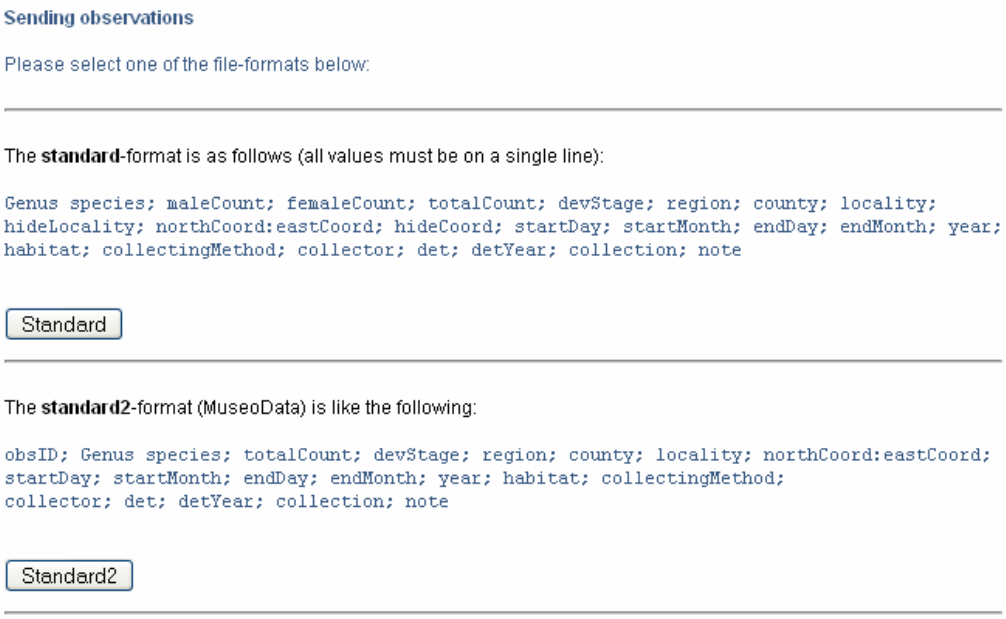



In addition to the owner of the observation, access to hidden information can be allowed to specially authorized persons. These access rights are managed by the database administrator.

## *4.2. Sending a File of Observations*

Besides storing single observations using the input form, you can send larger amounts of data by first writing them into a specially formatted observation file, and then sending that file to the database server.

After logging in and pressing the **Send file** link on the left side panel, you will be presented with the following two alternative input file formats:




Note that in the above file formats, hiding the locality or coordinates of an observation is indicated by setting

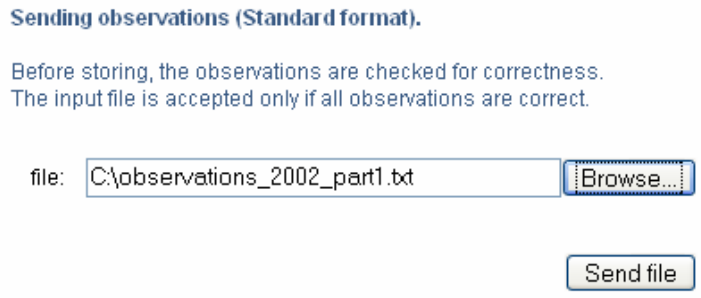
```
hideLocality = *
```

and/or

```
hideCoord = *
```

Additional file formats can be easily added to the system, if needed.

After selecting a file format, you can choose the desired input file:




When the **Send file** button is pressed, the file is sent to the server for processing.

Before each observation is stored, a database search is performed to ensure that a similar observation does not already exist in the database. If the observation is new, after storing it into the observation database the province database is updated accordingly, if the observation is new for the province.

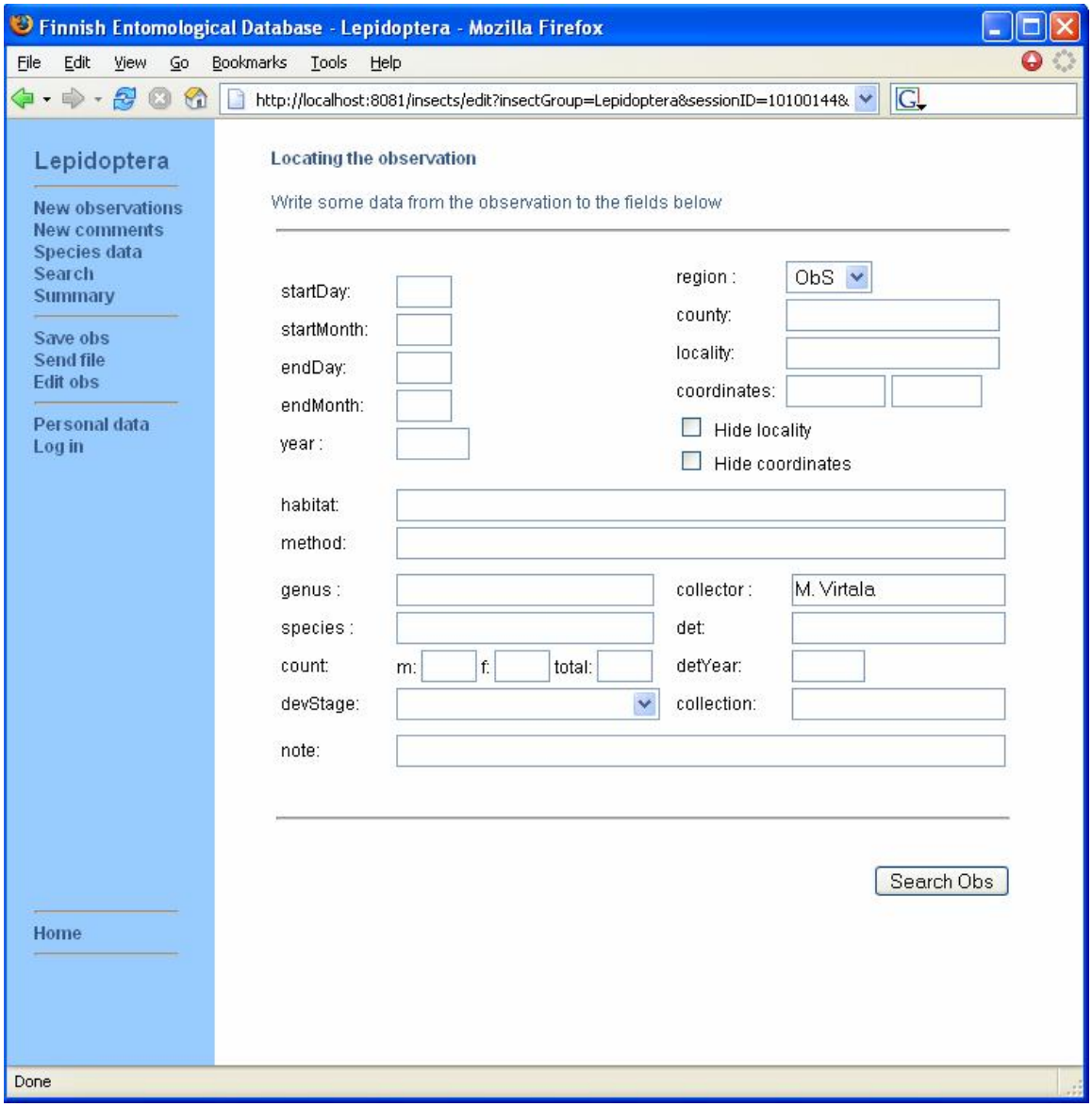
Note that the processing of observations can take a considerable amount of time. When your browser submits the observation file to the server, the server will send a response back to the browser only after all observations have been processed. If the observation file contains a large amount of observations, the browser may need to wait for a long time for the server's response. If the time period is long enough, the browser may even think that it has been disconnected from the server. For this reason, it is advisable that the number of observations in a single file is kept relatively small; say about 100 observations per file.

If there are errors in the file, you may get the following kind of message from the server:


After correcting the errors, you should finally receive the following kind of message:

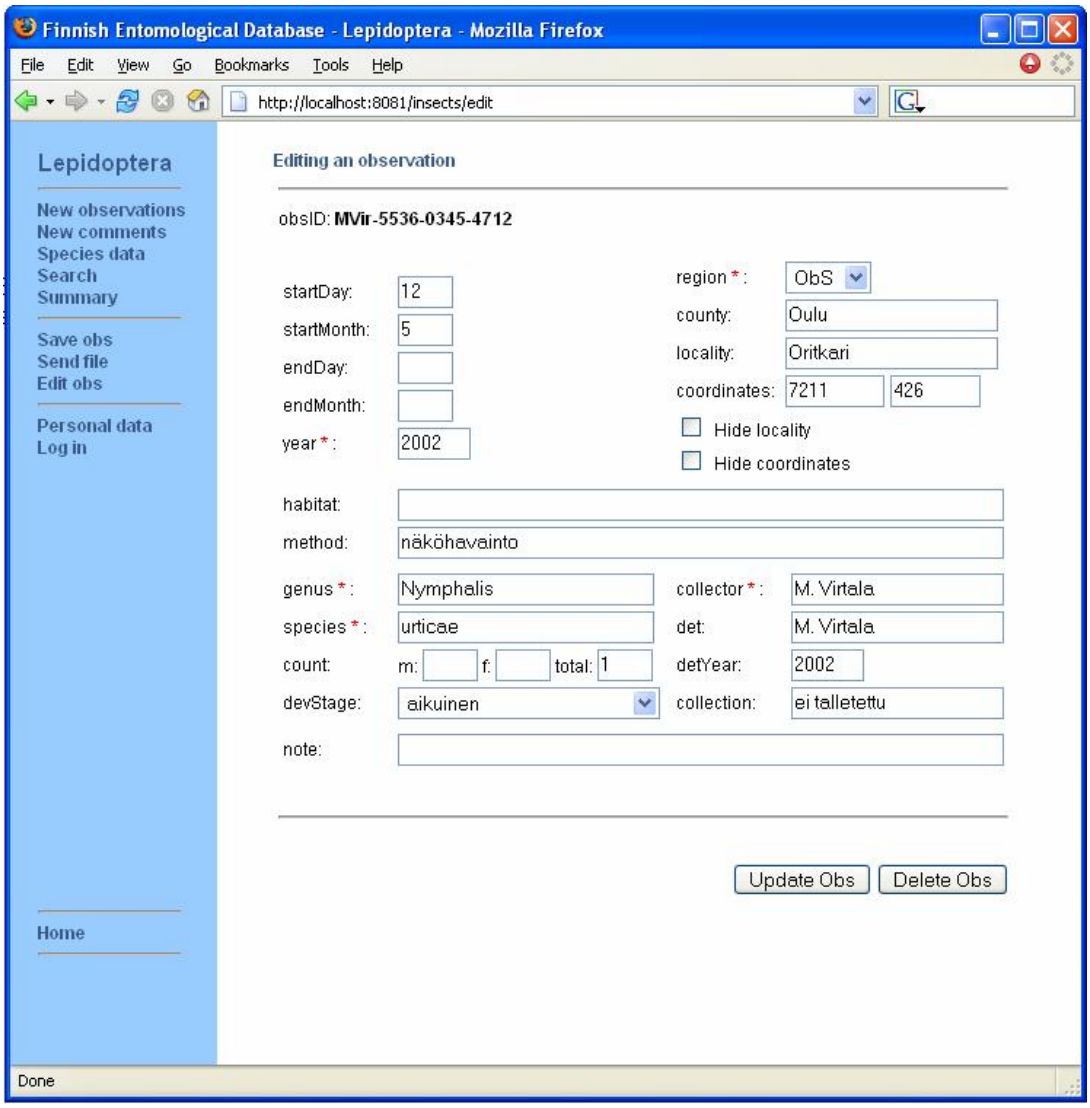
# 5. Editing Observations

Selecting the link **Edit obs** opens the following form:




To locate the observation to be edited, some relevant information must be written to the form's fields. After pressing the **Search obs** button, a list of possible observations is presented:

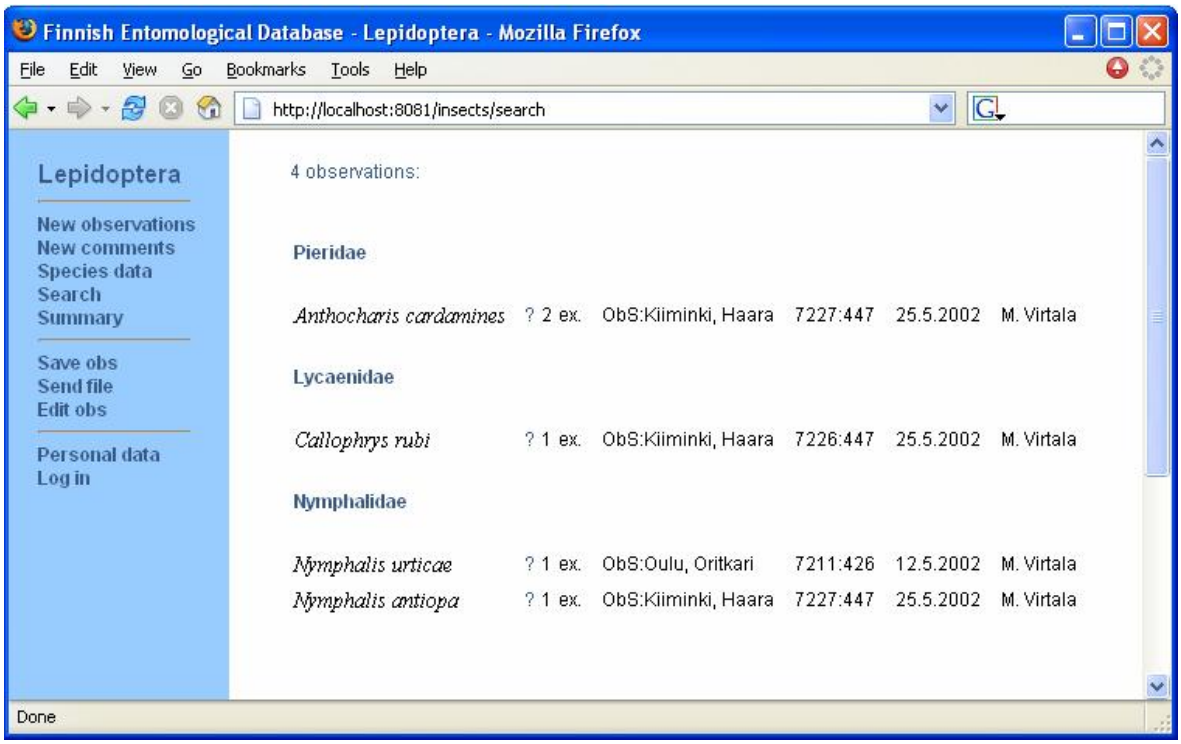

Selecting the first observation, say, by pressing the **Edit** button, displays the corresponding observation for editing (see picture on the next page).



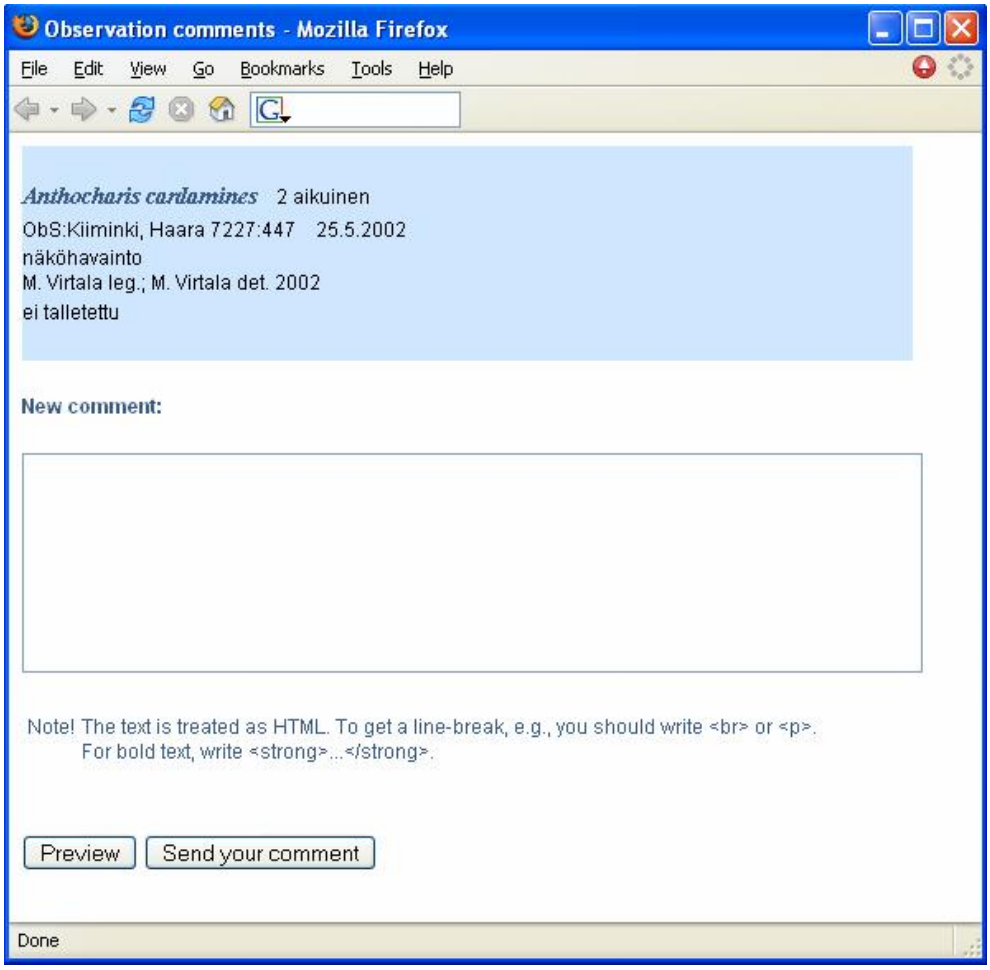

After making the desired corrections, the observation can be updated by pressing the **Update Obs** button.

# 6. Adding Observation Comments

The following picture shows the results of a search:

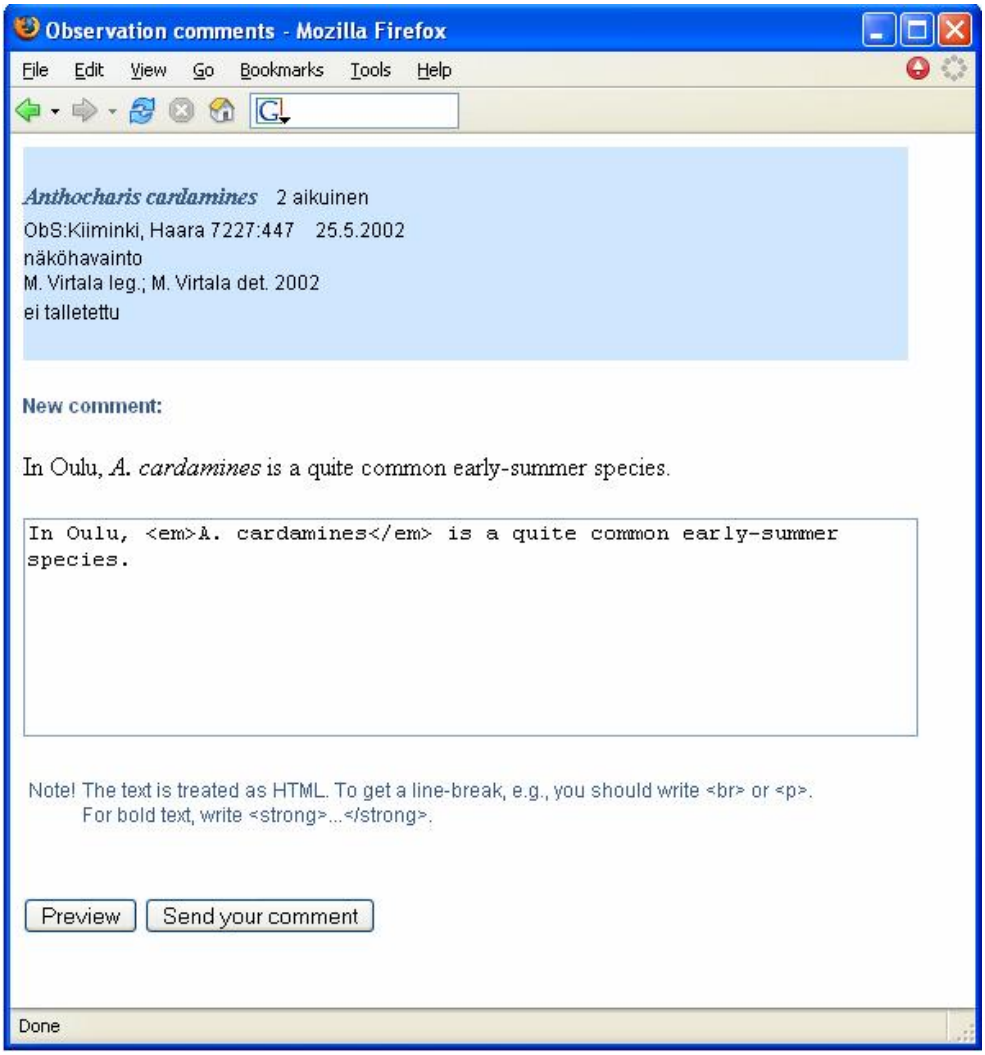



In the observation listing, each observation has a question mark after the species name. By clicking the question mark you can open a window showing more details about the observation:

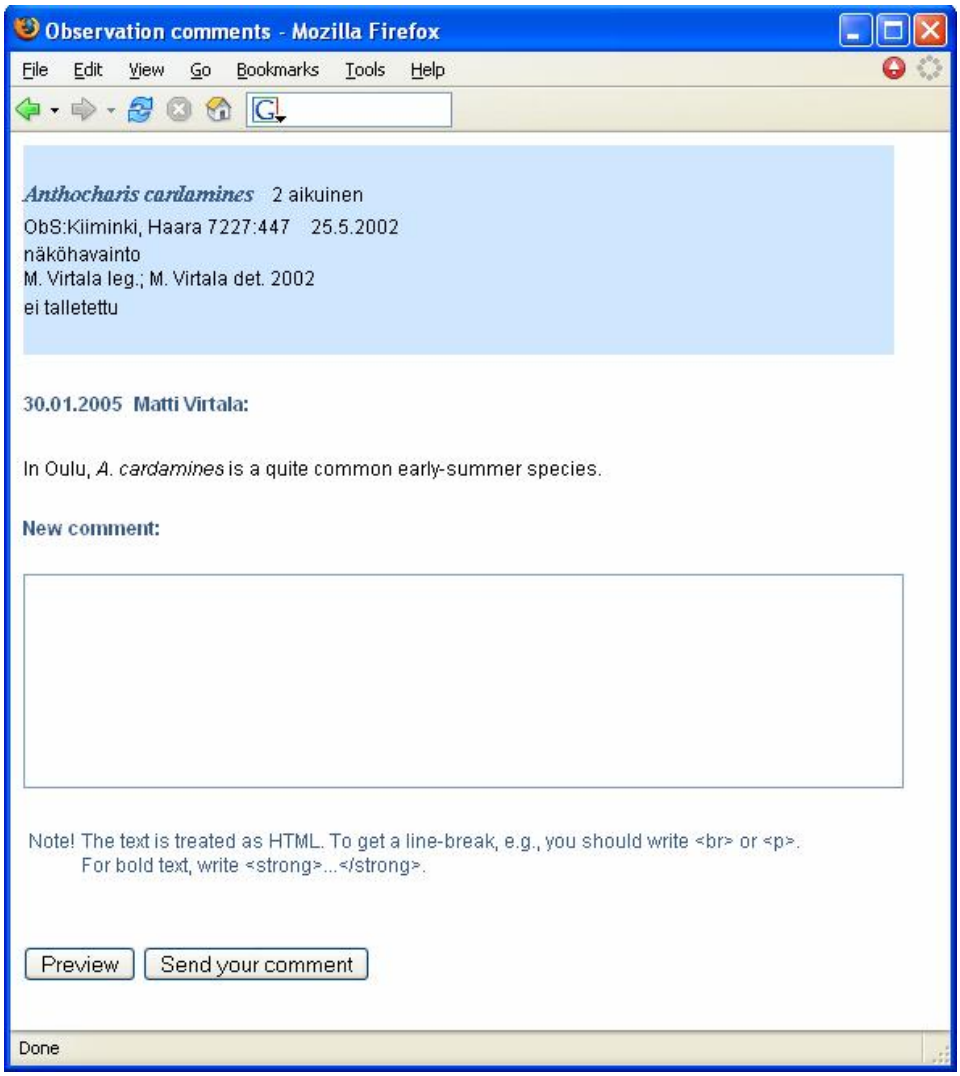



If you have logged in to the system, you will be able to add your own comment to the observation. The comment text is interpreted as html, so html tags can be used in the text.

After writing your comment to the text area, you can preview it by pressing the **Preview** button:

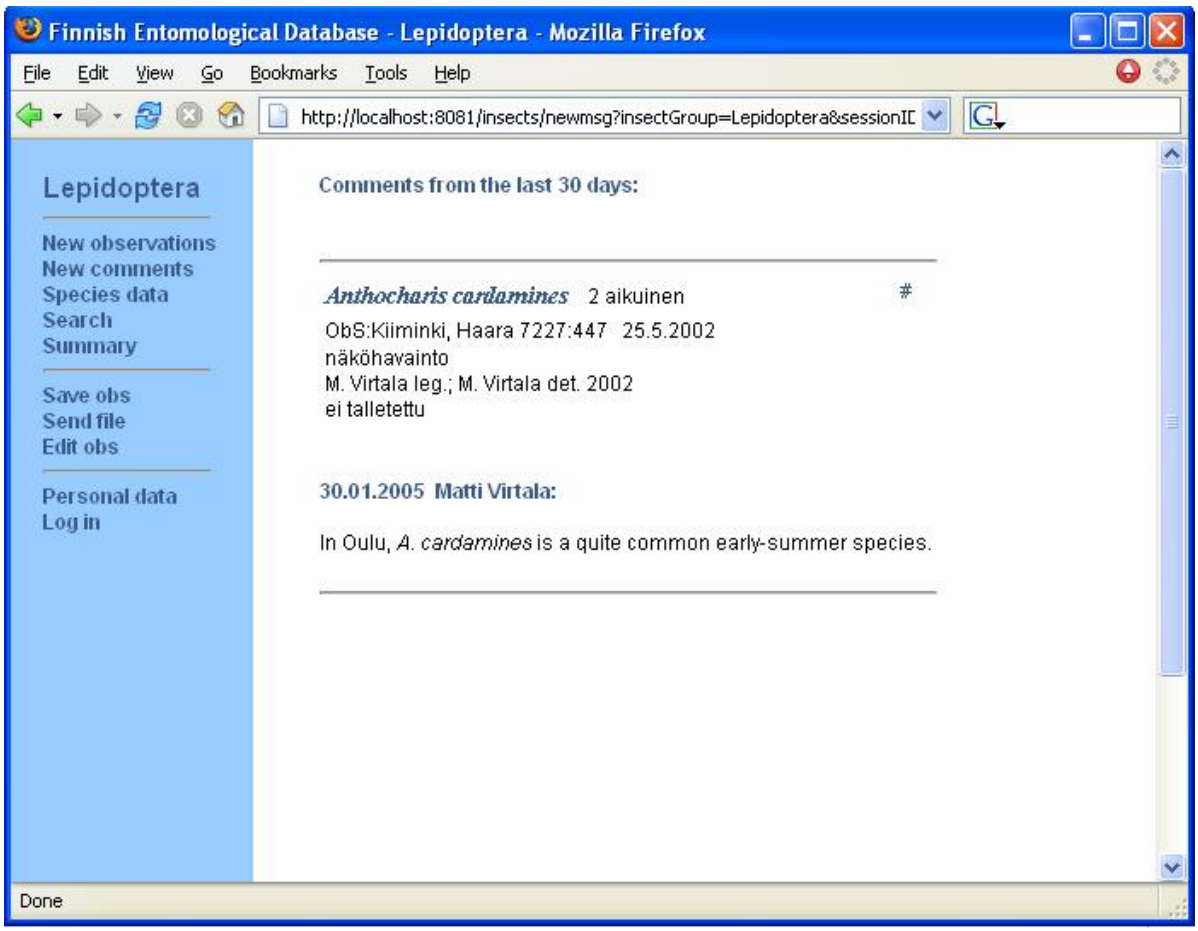



After sending your comment, you can see that it's been attached to the observation:




Note that if the original owner of the observation has an e-mail address, then a notice of the new comment will be automatically sent to him.

By pressing the left-panel link **New comments**, you can get a listing of the observation comments which have been added to the database during the last 30 days:



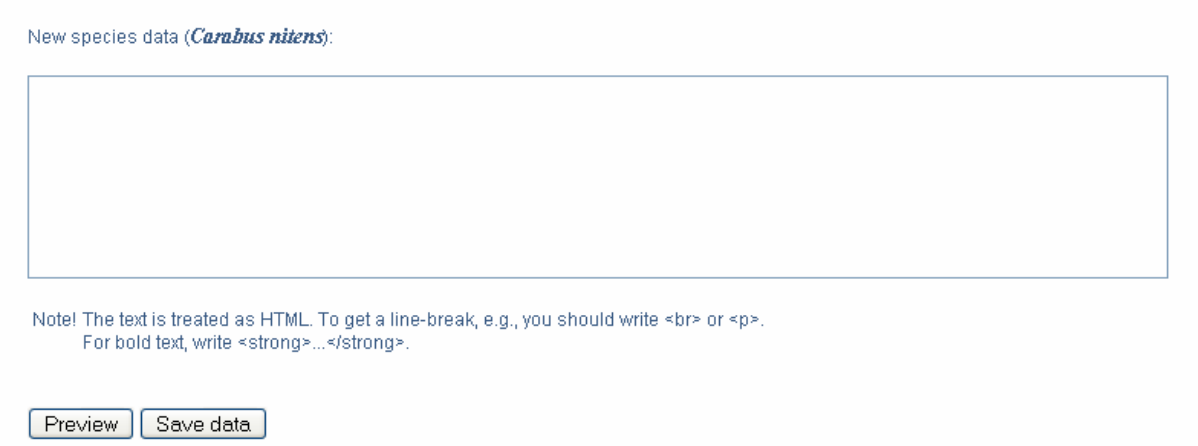

By clicking the # mark, you can add your own comments to the listed observation.

# 7. The Species Notes Database

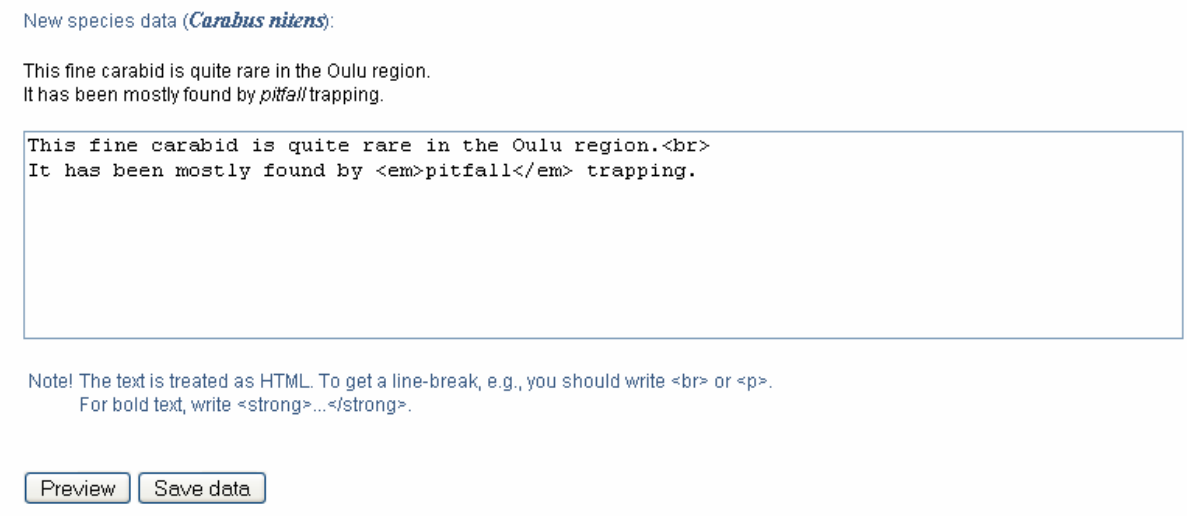
Information in the observation database contains singe, separate data items about different species. In some cases it is useful to be able to store information on a more general level, too. For example, if the abundance of a species has changed markedly in recent years, the information could be stored as an item in a database which can contain more general species information.

The species notes database provides a way to store general information about a species. Similarly to the observation database, each registered user can add information to this database.

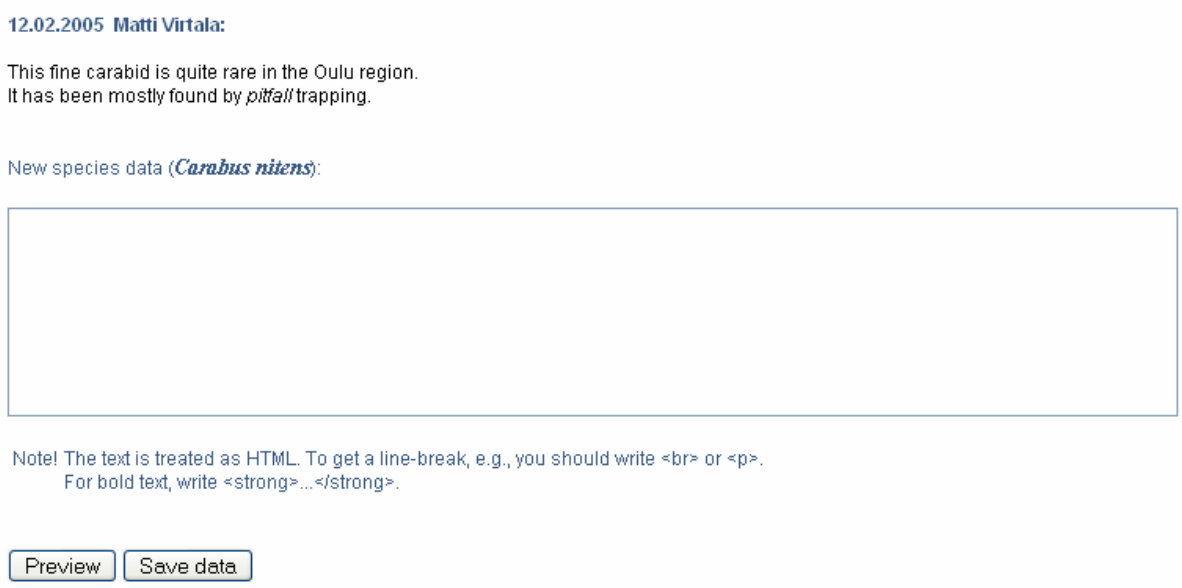
If you have logged-in to the system, the species notes listing, obtained by selecting the **Species data** link in the left panel, shows also an input area for adding a new note:




Before storing your note, you can preview it by pressing the **Preview** button:



Pressing the **Save data** button will store the new species note to the database:

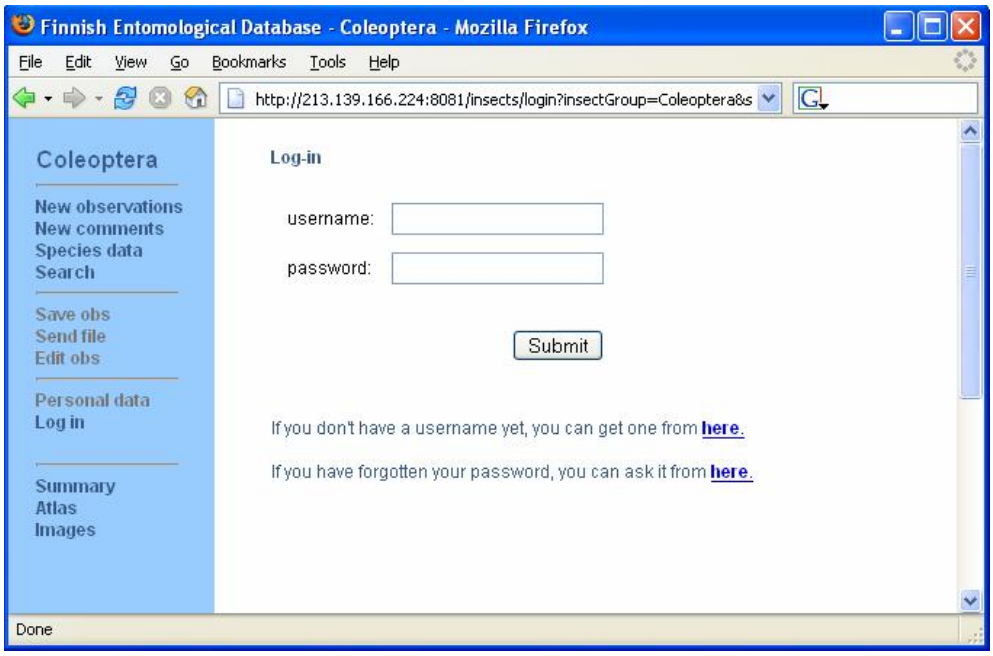


# 8. User management

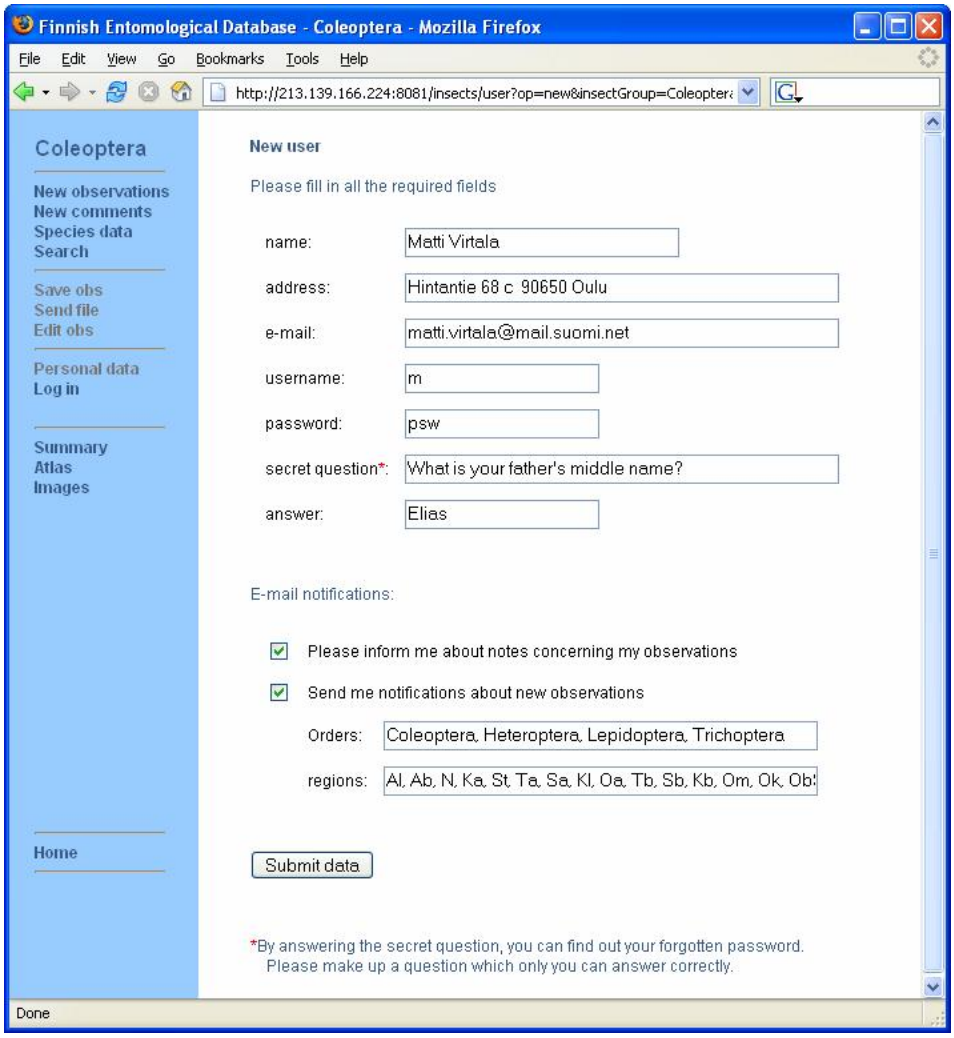
Only registered users can add new observations to the observation database, comment existing observations, or store new species notes to the species information database. We shall next describe the log-in procedure and the management of a user's personal data.

## *8.1. User Log-in*

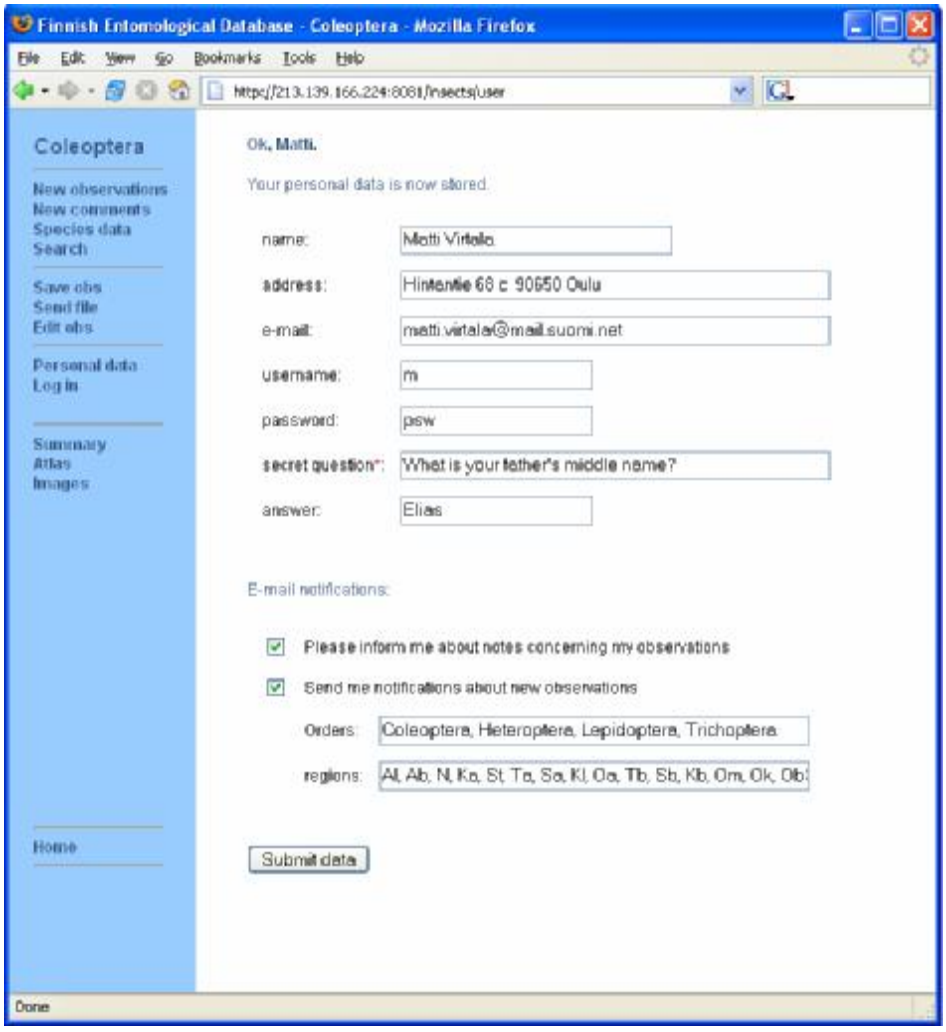
The log-in page looks like the following:



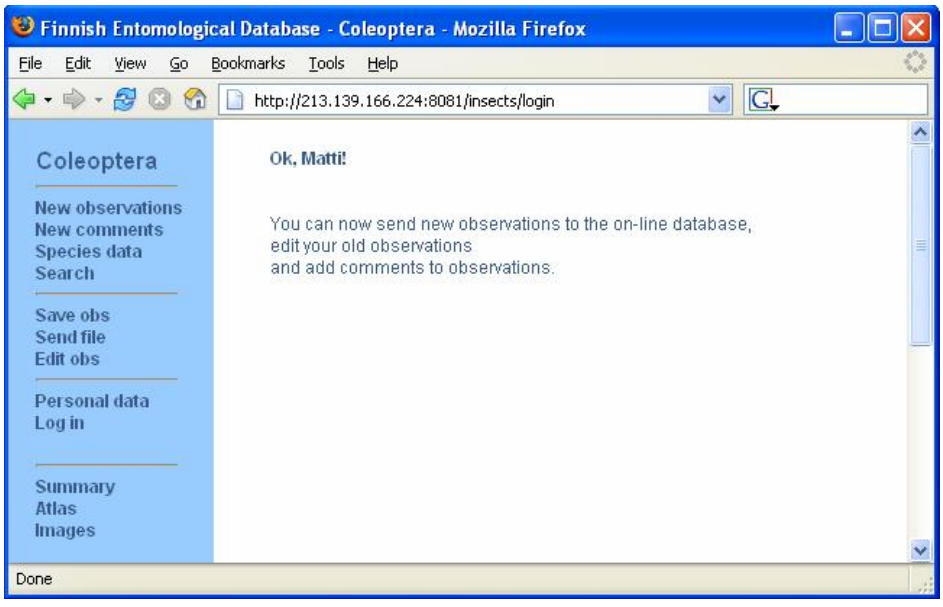

If you have already registered, simply fill in your username and password. For a new user, the registration form contains the following fields:




If everything is ok, after submitting the data you will get a confirmation of a succesful registration:

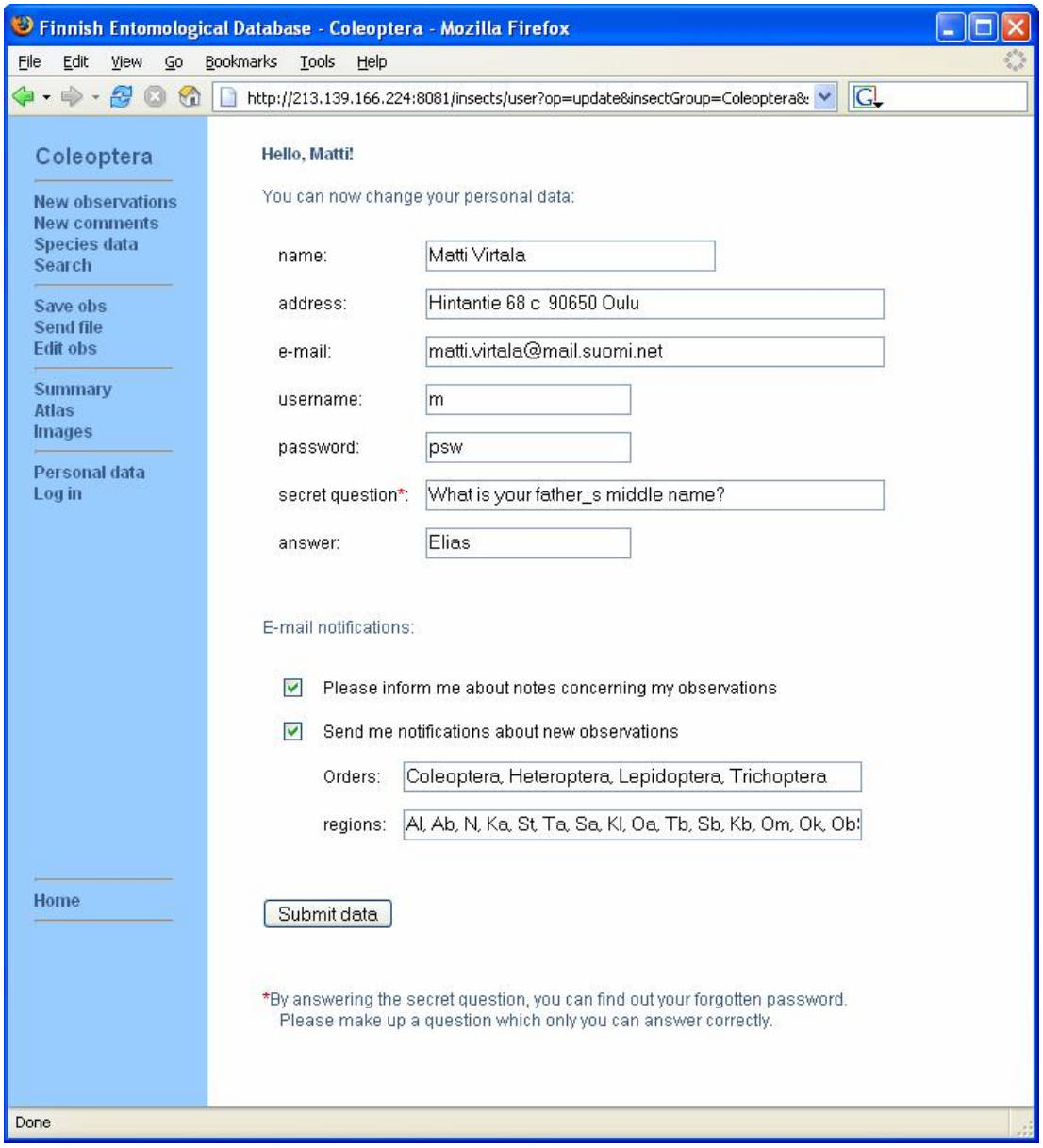



After registering, you can now log-in to the system:



## *8.2. Changing Your Personal Information*

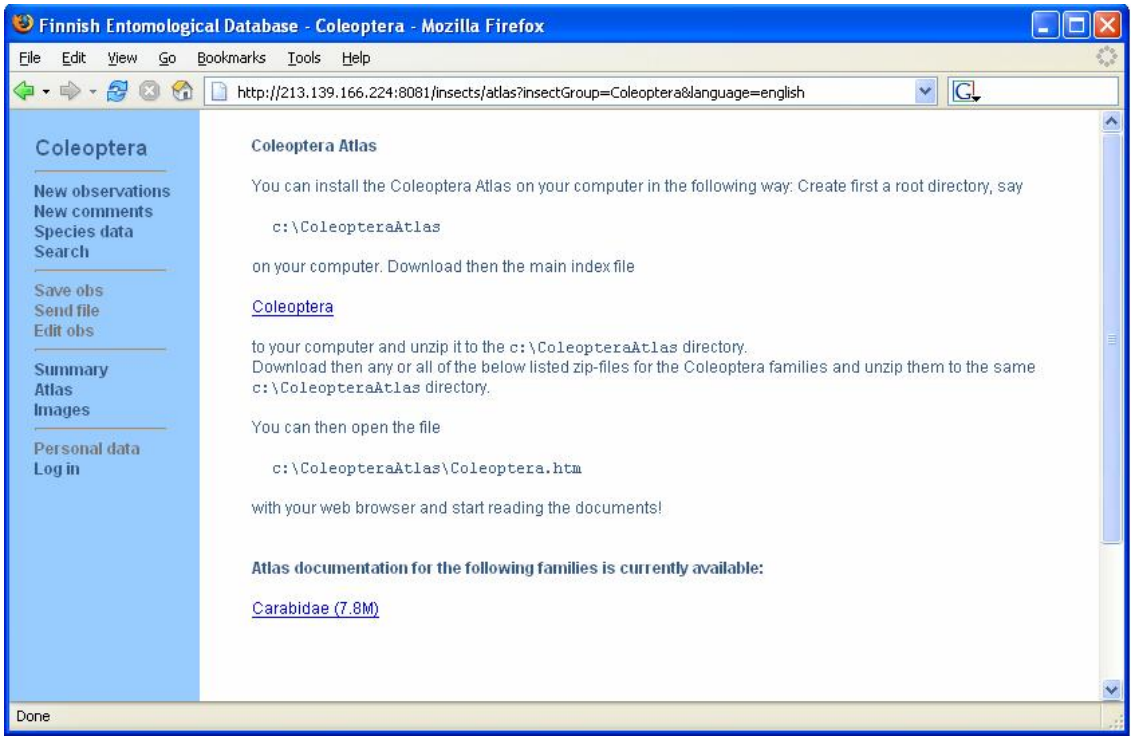
After a succesful log-in, the link **Personal data** will be enabled. Clicking it shows you a form by which you can change your personal information:



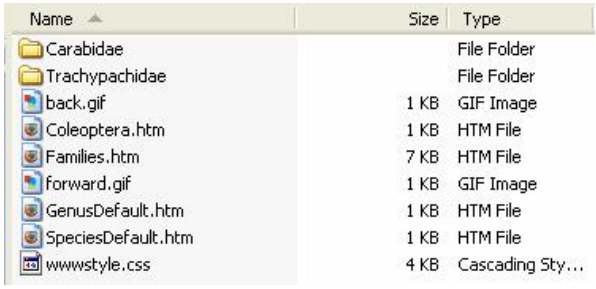
# 9. The Species Atlas

Chapter 2, Browsing Species Data, described the information which is available in the species inforrmation database. Although this data is always available through the internet, it would be practical to have the same information available as an off-line document, too.

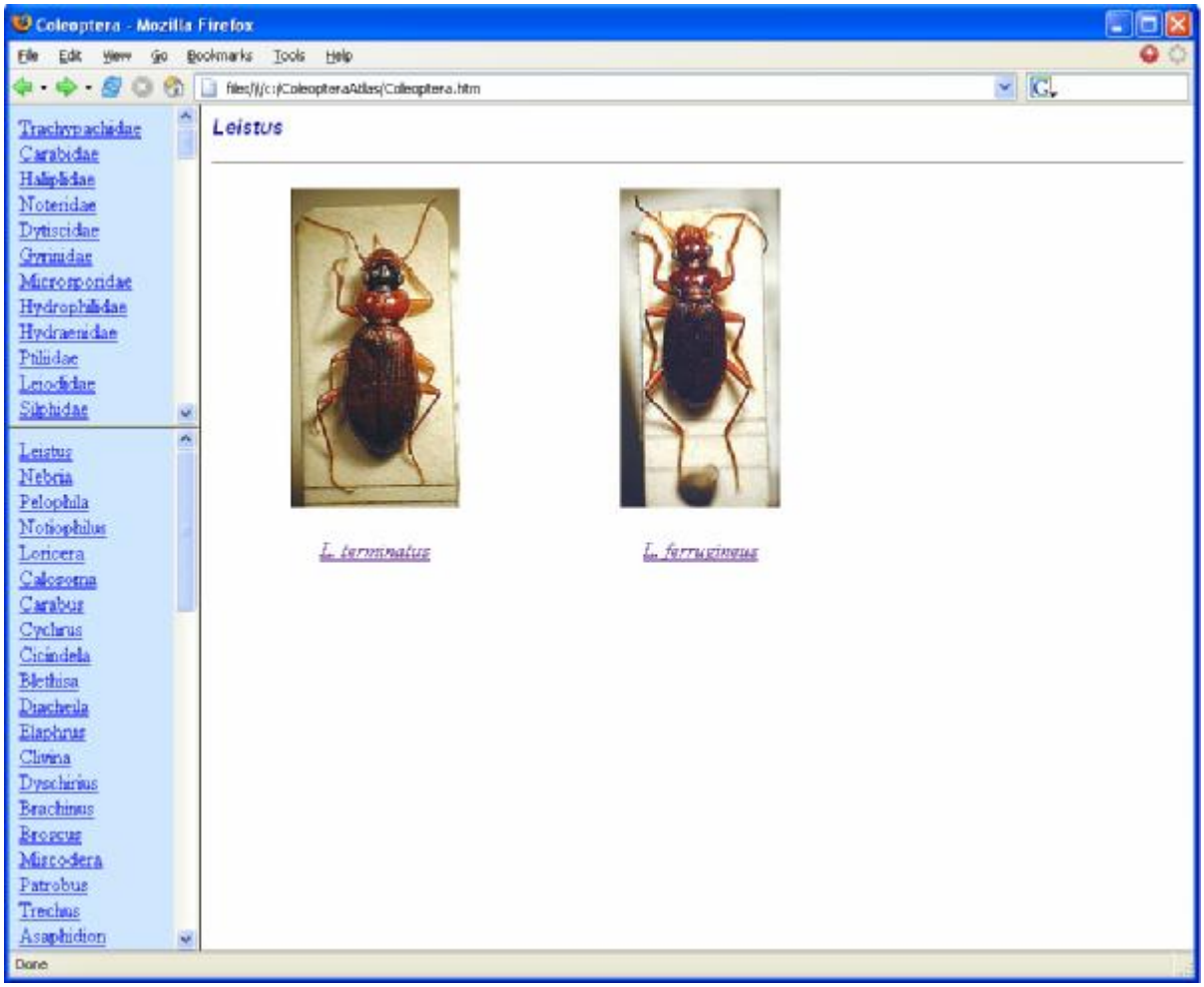
The insect database system has been built in such a way that it is possible to periodically generate suitable offline information from the database. For each specific family and insect order, the documentation is available as a zip-file. For each order, the left-side panel contains a link named **Atlas**. Selecting the link for Coleoptera, say, shows the following page:




After dowloading and unzipping the files, the directory `c:\ColeopteraAtlas` should have the following contents:



Opening the file `Coleoptera.htm` with a browser shows the following page (here we have selected the family Carabidae and the genus *Leistus* from the form's left-hand side panels):

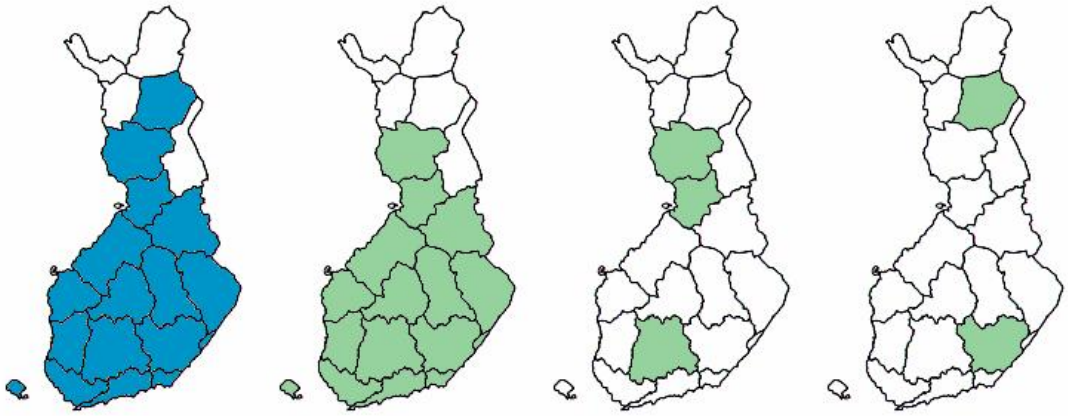



Of course, thumbnail images of the species will be shown only if suitable images exist in the image database.

Selecting the species *L. terminatus*, say, displays the following Atlas data for the species:

**1.** Provincial distribution maps for different time periods

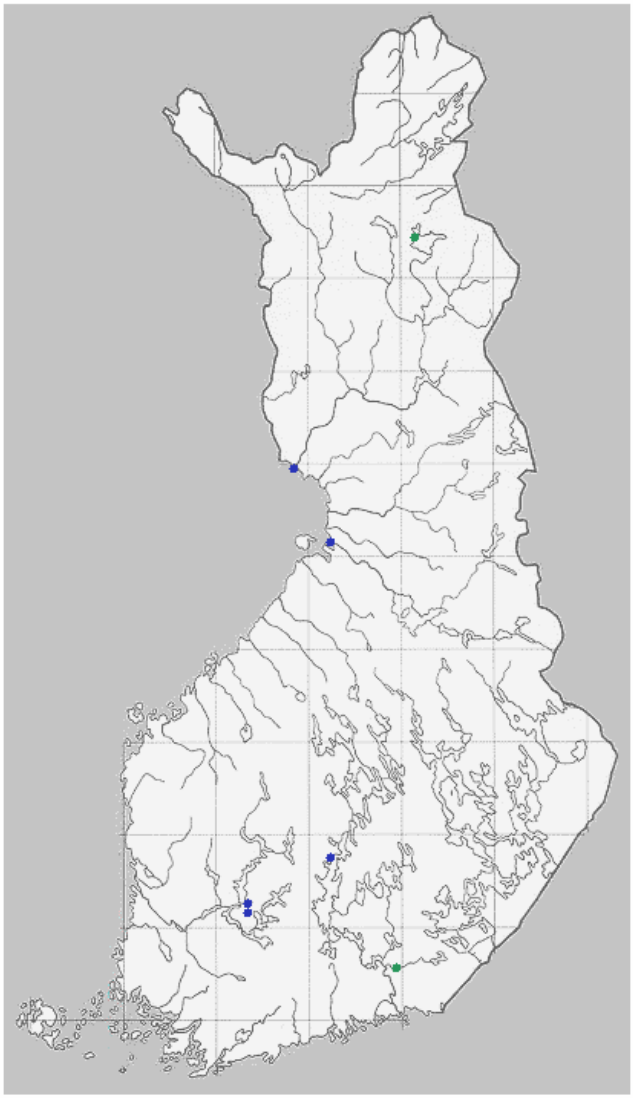
*Leistus terminatus* (Hellwig, 1793)

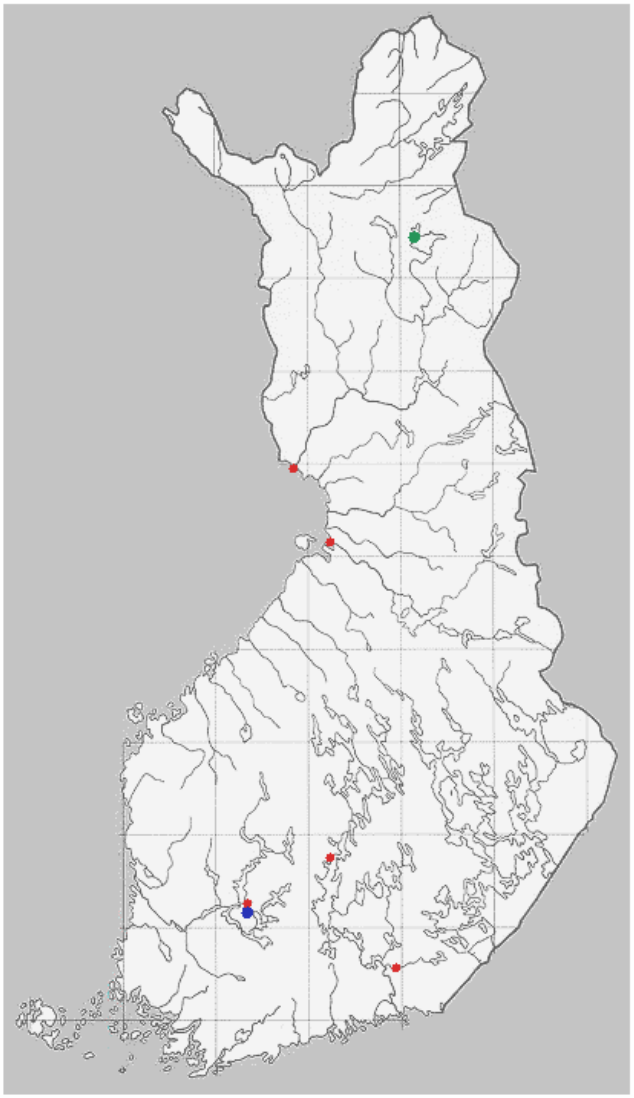


**2.** 10x10km distribution maps

**Time periods:** ?, -1949, 1950-1999, 2000-

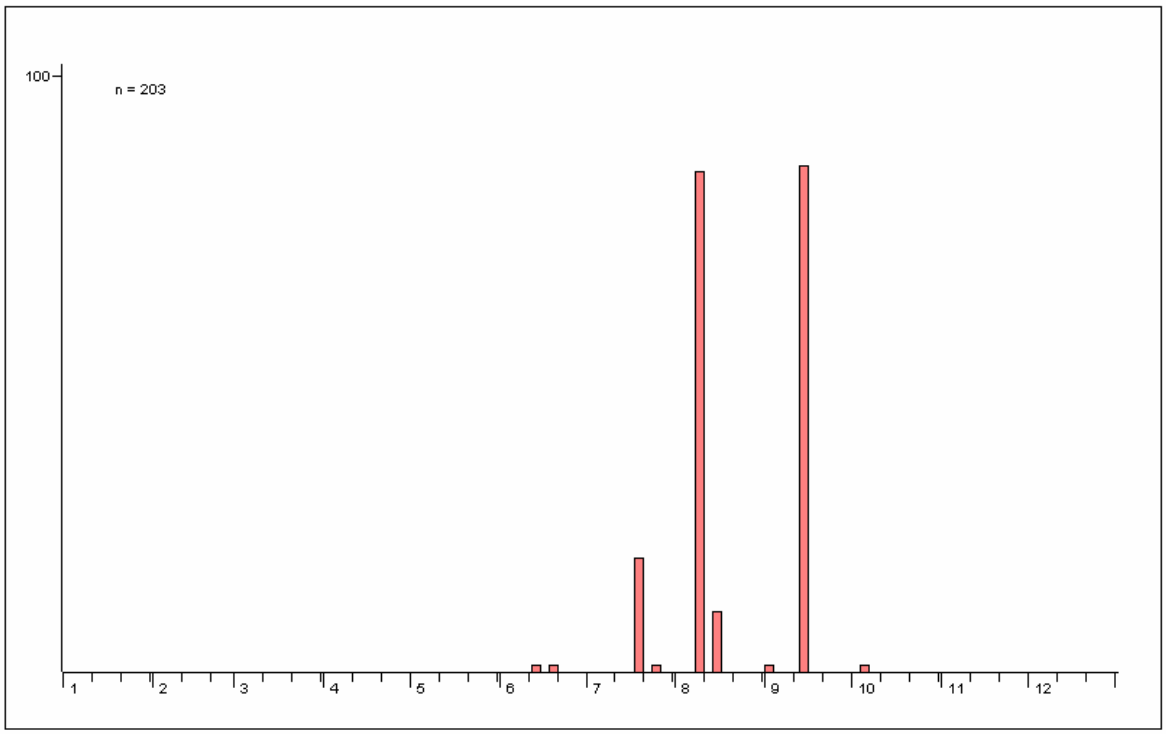
**Exx.:** o = 1, o = 2, O = 3, O = 4-





**3.** Phenology information

**Phenology (exx.)**




| | 3 earliest obs | 3 latest obs |
|---|---|---|
| Ta | **25.07.**1985 | **25.07.**1985 |
| Sa | **02.09.**2001 | **02.09.**2001 |
| ObS | **12.06.**1997 | **12.06.**1997 |
| LkE | **18.06.**2001 **20.07.**2000 **20.07.**2000 | **13.09.**2001 **13.09.**2001 **04.10.**2001 |

**4.** Additional collecting data

| | exx. | | obs. |
|---|---|---|---|
| J. Itämies & O. Nenonen | 199 | J. Itämies & O. Nenonen | 38 |
| M. Pentinsaari | 2 | M. Pentinsaari | 2 |
| S. Karjalainen | 2 | S. Karjalainen | 2 |
| Juha Salokannel | 2 | Juha Salokannel | 2 |
| M. Virtala | 1 | M. Virtala | 1 |
| Pekka Valtonen | 0 | Pekka Valtonen | 1 |

*Last updated 22.01.2005.*

*L. ferrugineus* >

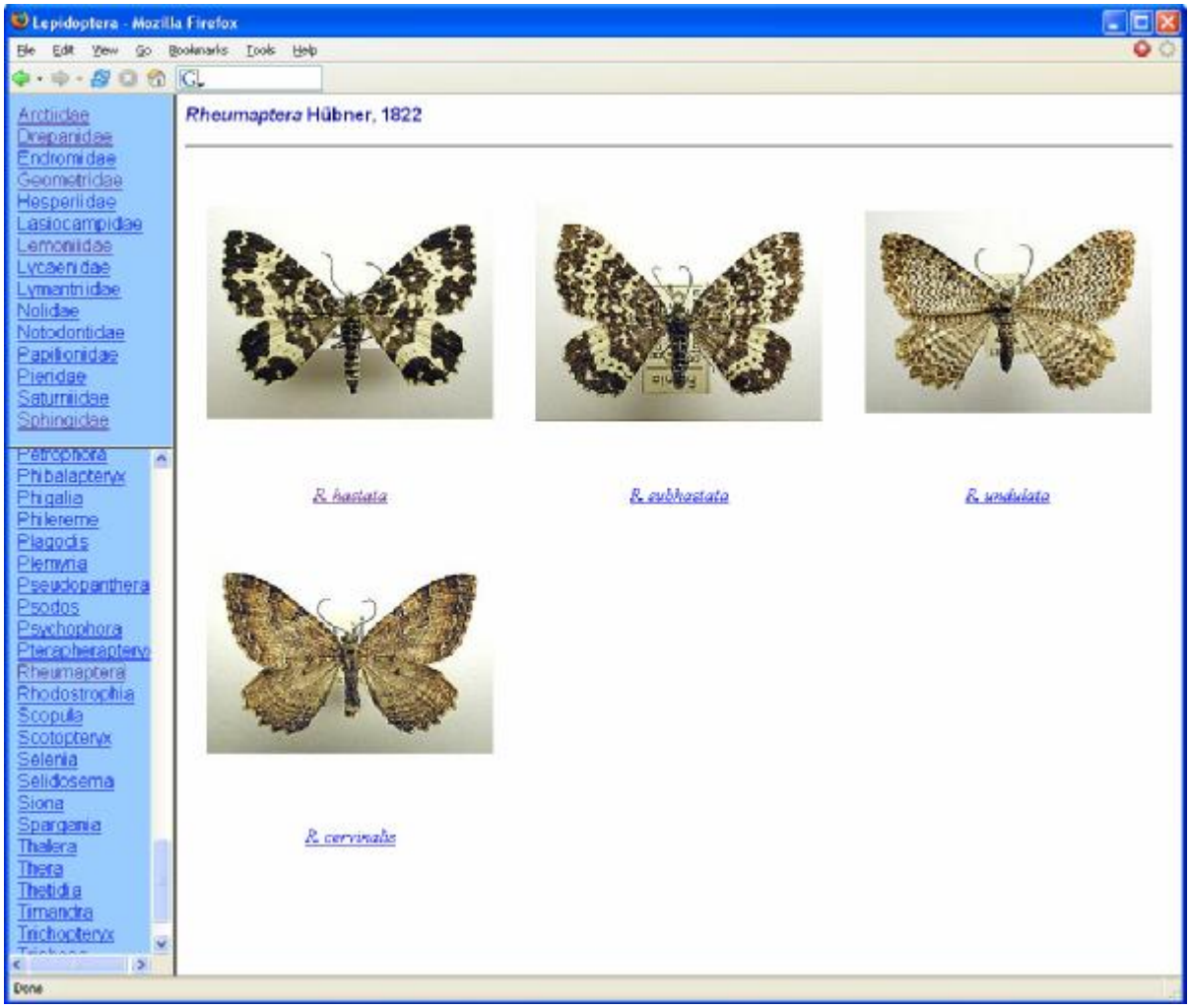
The amount and quality of the Atlas data is entirely dependent on the data stored in the database. It is thus ultimately up to the insect collectors, whether the Atlas data will provide useful information about the species.

# 10. The Image Database

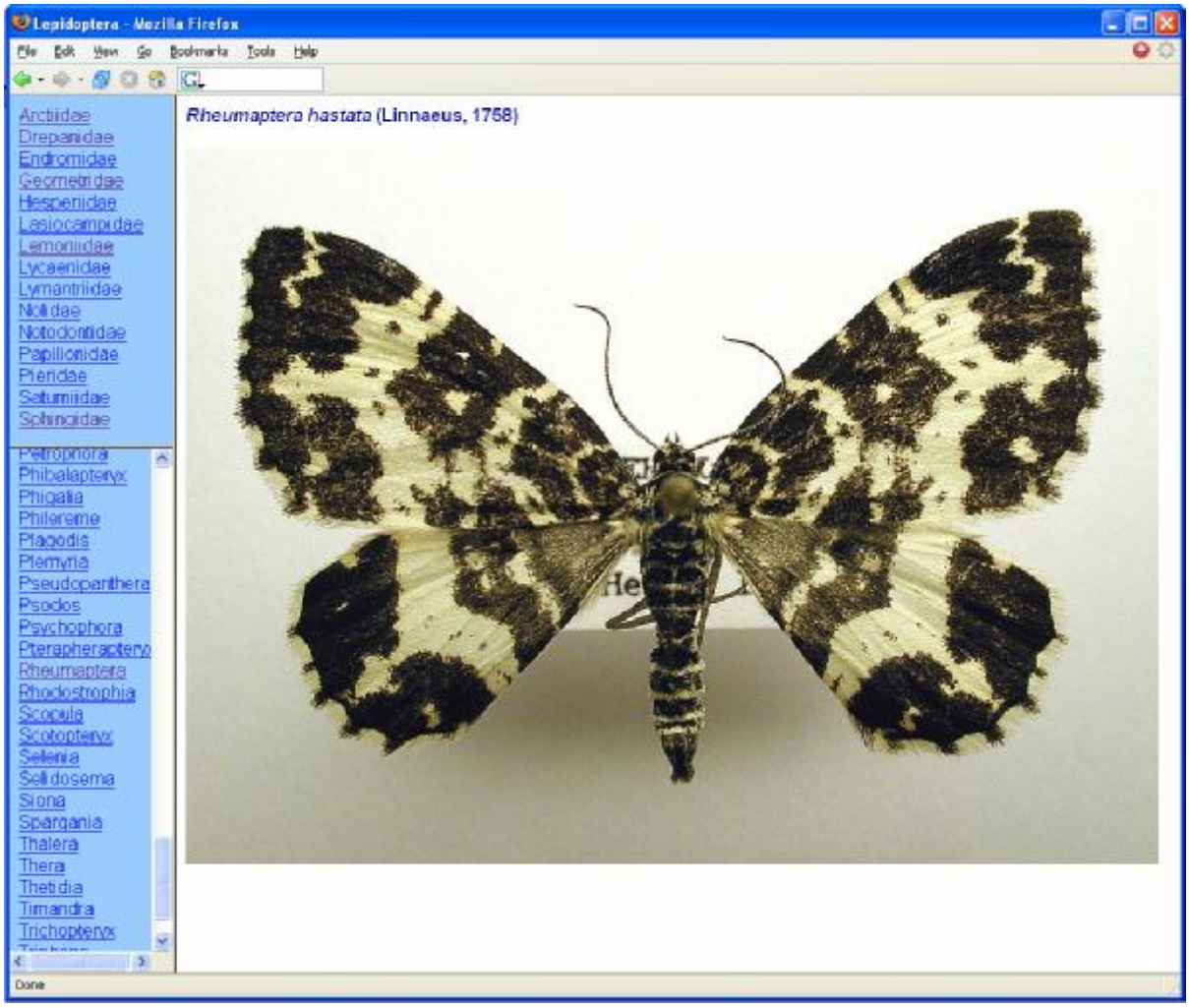
Having good images of different species can greatly ease the determination of a specimen. For identification purposes, a separate database of species images is provided. For some of the insect groups, there is an **Images** link on the left-side panel. By selecting this link, you can browse the available images for the group.

## *10.1. Browsing the Image Database*

Currently, only for Lepidoptera there is a considerable amount of images available. For this group, clicking the Images link opens a window which allows you to select the desired family and genus from the left-hand side frames (here, we have selected the family Geometridae and the genus *Rheumaptera*):



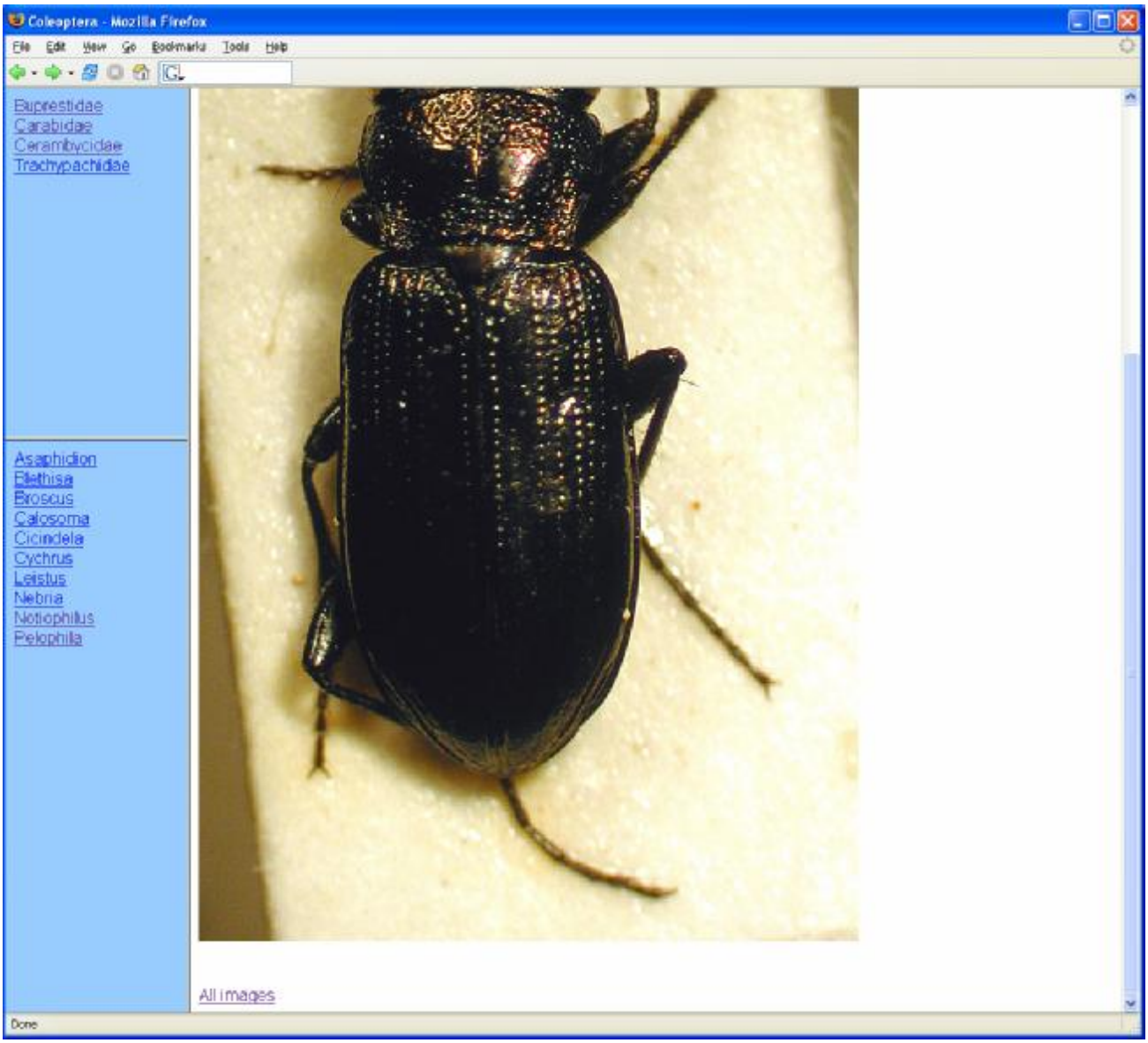
By clicking one of the thumbnail images, a larger image is shown:



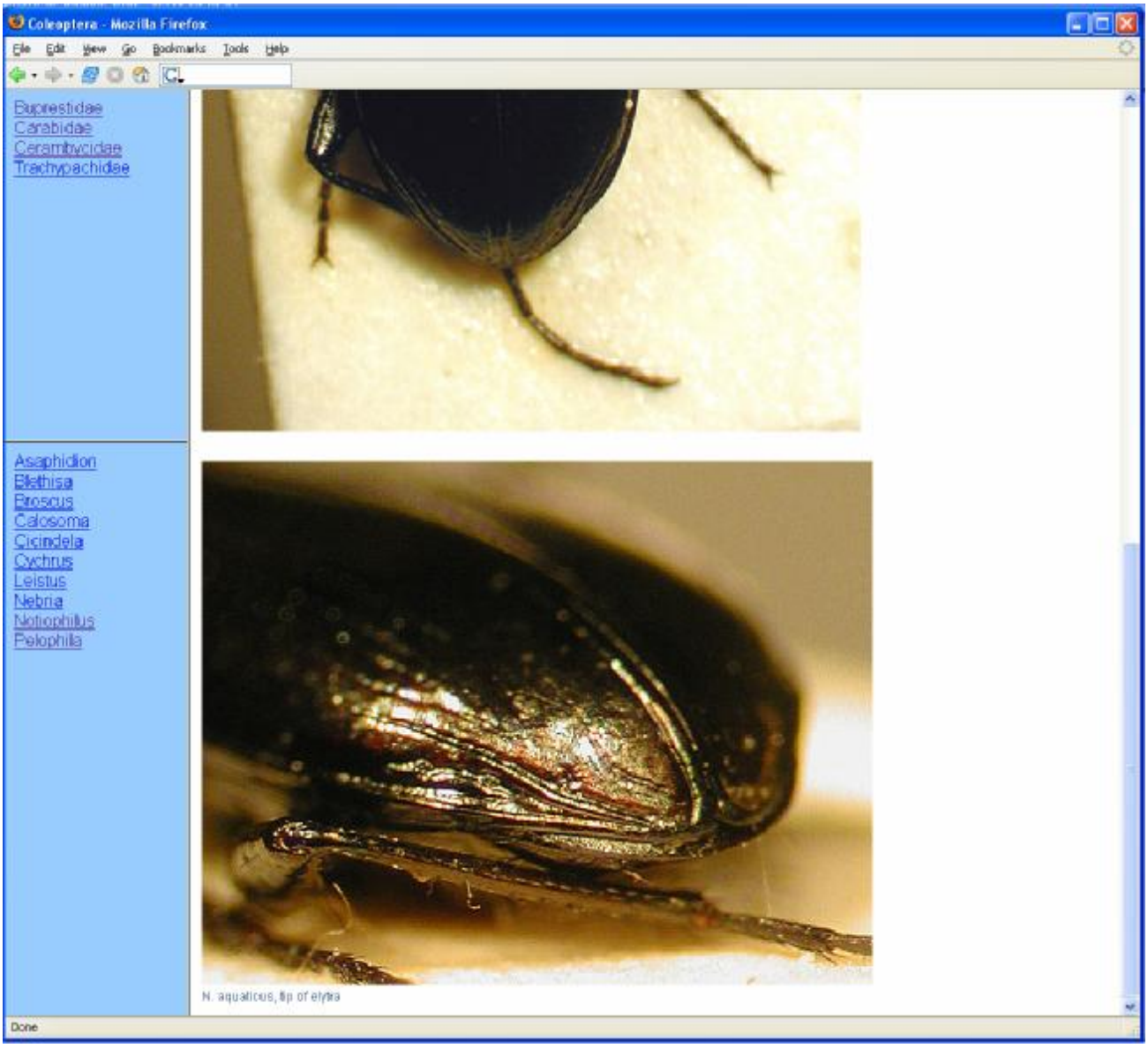

## *10.2. Displaying Additional Images for a Species*

In many cases it can be sufficient for correct species determination to have one good image of a given species. However, in many genera determination requires a more detailed examination of the available specimens.

To provide help in the more diffucult determination tasks, more than one image of a species can be stored in the image database. If additional images are available, an **All images** link is shown below the main species image:

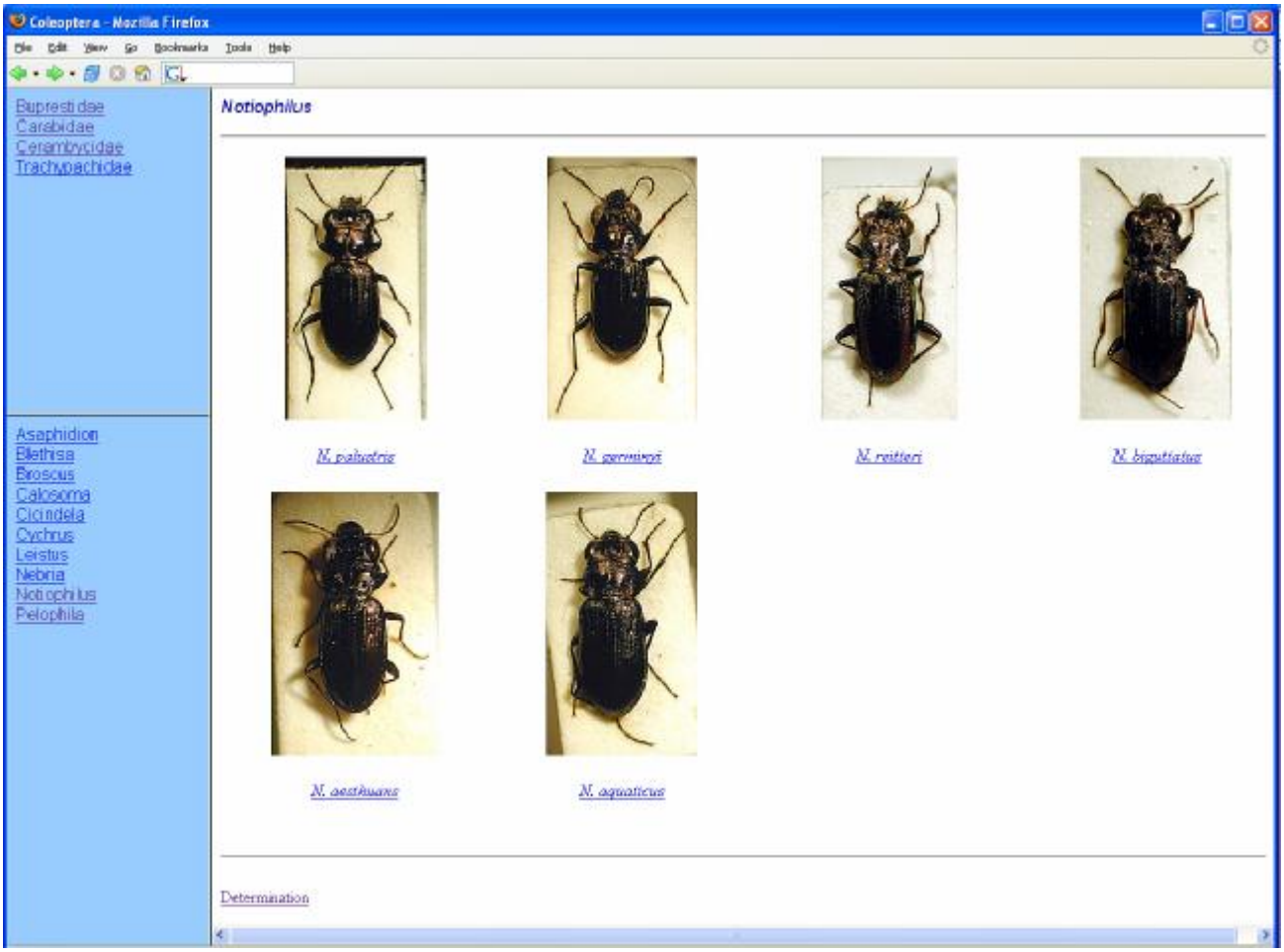



Clicking the **All Images** link will display all the available images for the species:

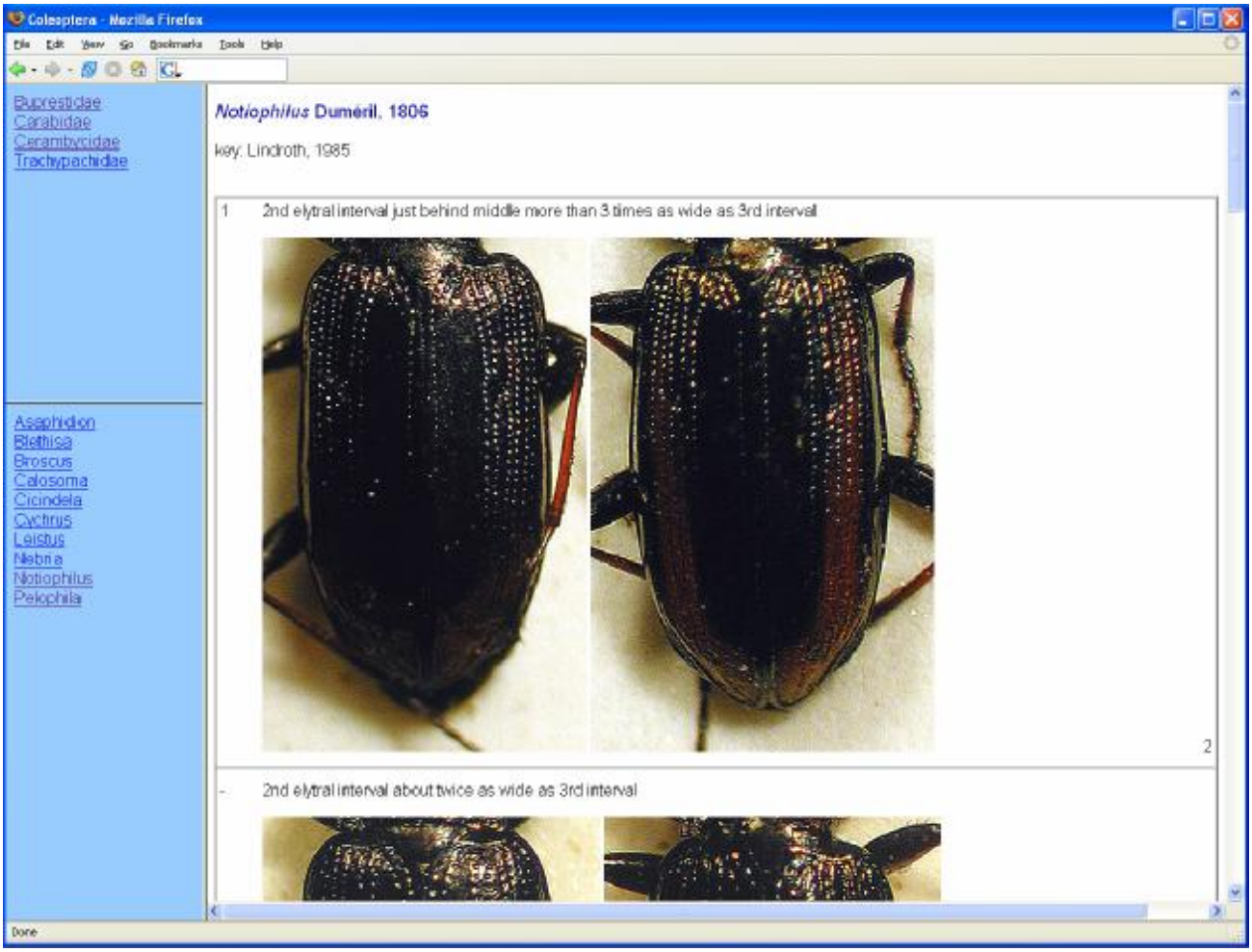

Coleoptera - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
Buprestidae
Carabidae
Cerambycidae
Trachypachidae
Asaphidion
Blethisa
Bradycellus
Calosoma
Cicindela
Cychrus
Leistus
Nebria
Notiophilus
Pelophila
N. aquaticus, lip of elytra
Done

## *10.3. Species Determination*

Having some extra detail images of a species may be sufficient to ensure a correct determination. However, in addition to detailed images, it is also possible to provide a determination key for a given genus. If a key is available, a **Determination** link is shown below the thumbnail images:




This will open the determination key for the genus:




## *10.4. Adding New Images to the Image Database*

There is a great need for images in all insect groups. If you have images for a new species, please send them to the database administrator. Due credit will be given to the provider of an image. It is, however, assumed that all images supplied to the database will be free to use in any non-commercial purposes. When a picture is used outside of the database, the original source should be mentioned. For example, you can use expressions like

```
Image: Finnish Entomological Database
```

Or, if the original provider of the picture is known,

```
Image: Finnish Entomological Database/N. N.
```

In addition to images, html documents on determination issues (keys, comparisons, etc.) can also be added to the database. If you have written these kinds of ducuments, please send them to the database administrator. This way other collectors can take benefit of your work, too.