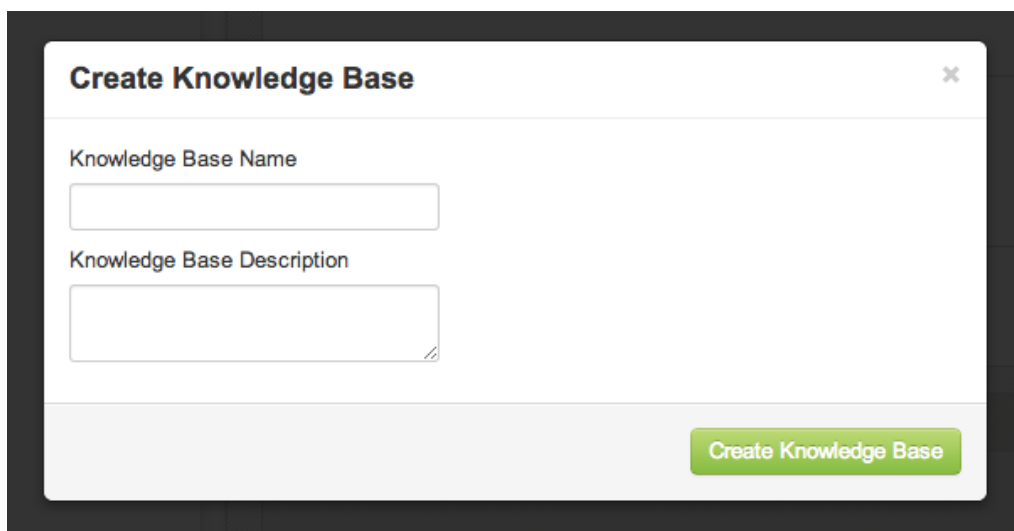# Xper3 Documentation

Xper3 is a versatile web platform dedicated to descriptive data management and interactive identification. This new platform gives users the ability to work simultaneously and remotely on the same knowledge base. Users can edit, analyze and share their descriptive data online. Furthermore, it allows multiple users to edit the same data concurrently (i.e. simultaneously) in a secure manner.

Knowledge base management

The first step when using Xper3 for the first time is to create a Knowledge Base. A Knowledge Base contains all the entities used by a systematist to describe his taxa of interest:
- The items
- The descriptors
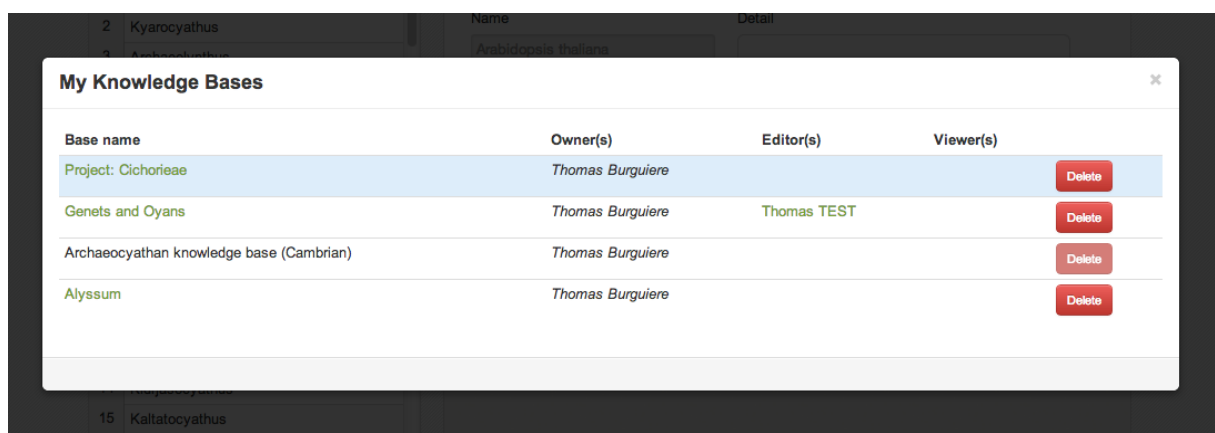- The description of the items according to the descriptors

The user is free to create and delete as many knowledge bases as he wants.

Items edition

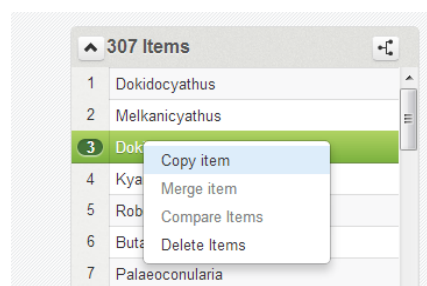Items represent the objects the user wants to describe. Typically in taxonomy items are taxa. Items are accessible in the "Items" tab and by default displayed as a list. By clicking on an item you can edit its name, its alternative name and add a free text description of this item ("definition" tab on the right side).
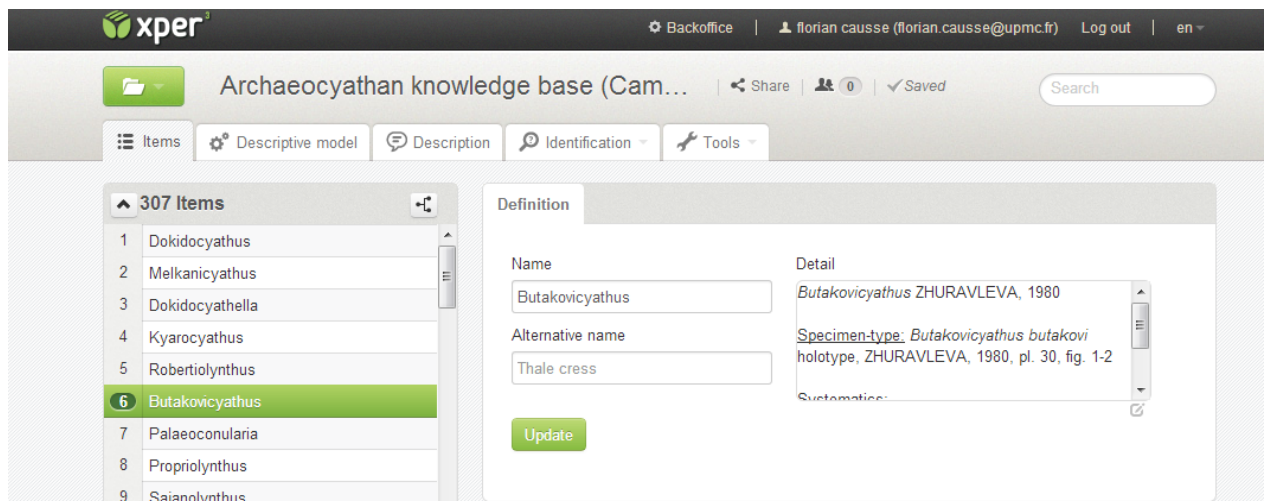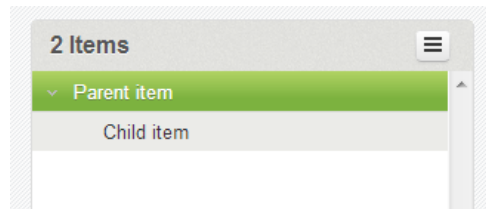

At the bottom of the item list a text field allows the user to create a new item by typing its name then pressing "enter", or to search an item in the list.
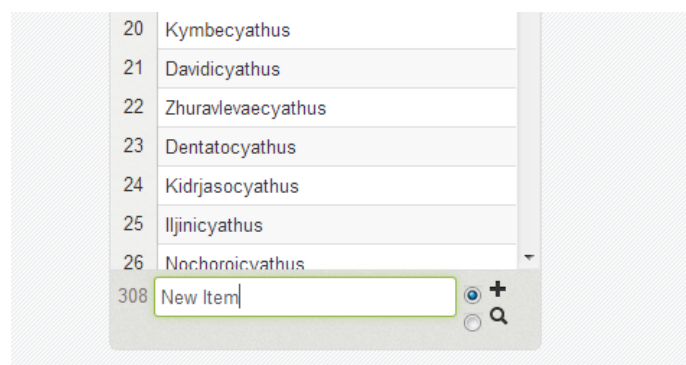
By a right-clicking on an item, the user can access a contextual menu for copying, merging, comparing or deleting items.

The items can also be viewed as a tree by clicking on the tree icon displayed on the top-right of the list.
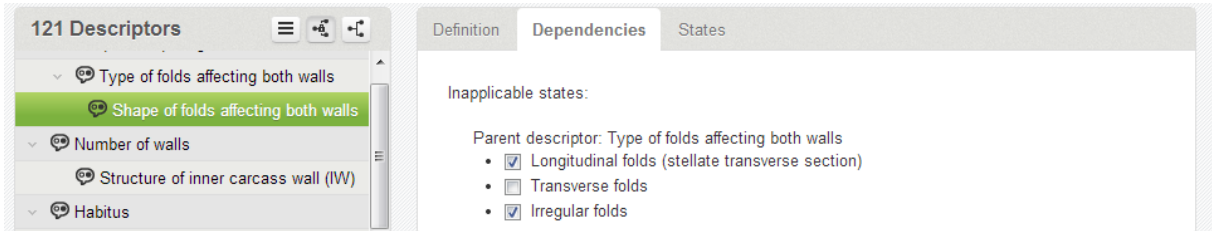

Descriptors edition

The descriptors represent the characters of the items the user wants to describe. Descriptors are accessible in the "Descriptive model" tab. Similar to the items edition, a "definition" tab on the right side of the interface allows the users to change the name and the free-text description of a descriptor. In this section the user can also give the selected descriptor a weight (ranging from 1 to 5). The weight is used in the interactive identification interface, in which the descriptors are sorted by their decreasing weights.
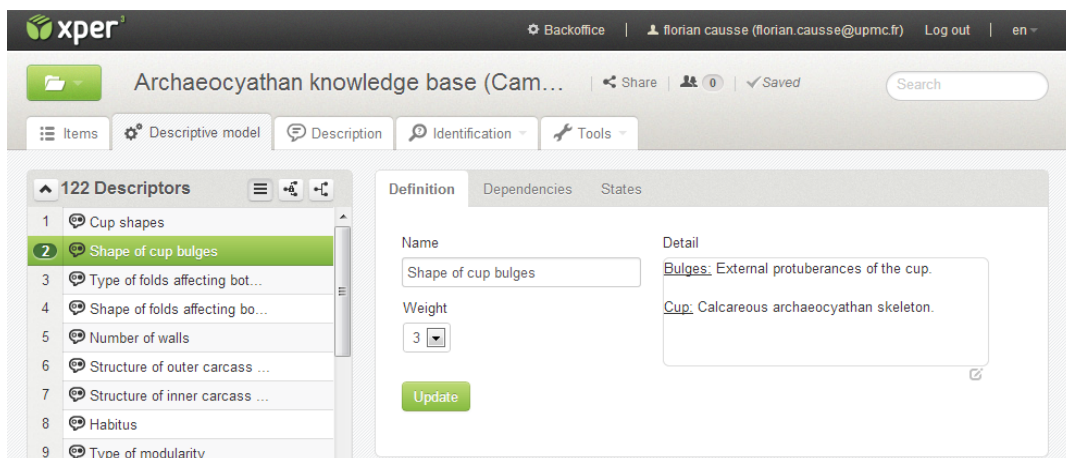
A descriptor can be numerical or categorical. A categorical descriptor is composed of states that can be added/edited in the "States" tab on the right side.


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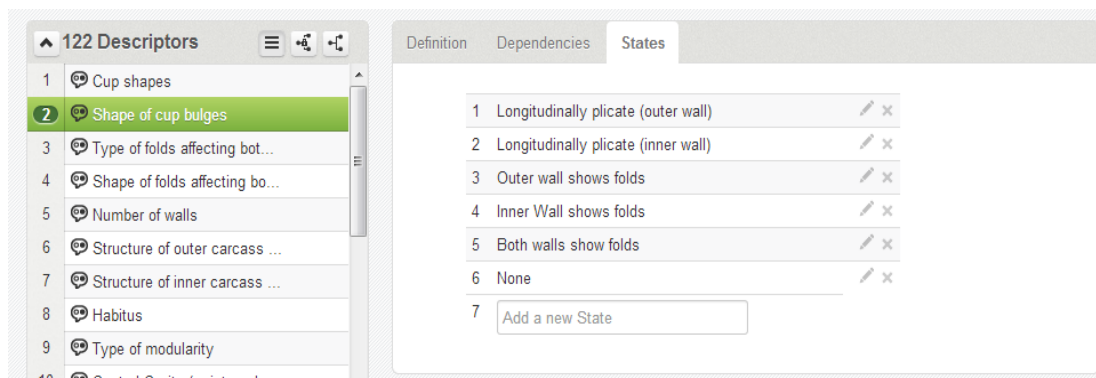
Descriptors can be viewed as a dependency tree or a group tree. The dependency tree allows the user to specify that a descriptor is inapplicable if one or several states of the parent descriptor are checked. The dependencies can be edited in the "Dependencies" tab on the right side. The group tree allows the user to arrange his descriptors in groups. These groups do not represent a dependency between descriptors, and are only a convenient way to sort descriptors.


Description edition

The descriptions can be represented as a matrix items/descriptors. In this section ("Description" tab) the user can describe each item. To do so, the users have to select one or several item(s) on the left column and one descriptor on the middle column. The description will appear on the right side. For categorical descriptors the description is composed of states that can be checked or unchecked. For numerical descriptor Min, Max, Mean and SD (standard deviation) values can be edited. The "Unknown values" checkbox must be checked if no description is available.
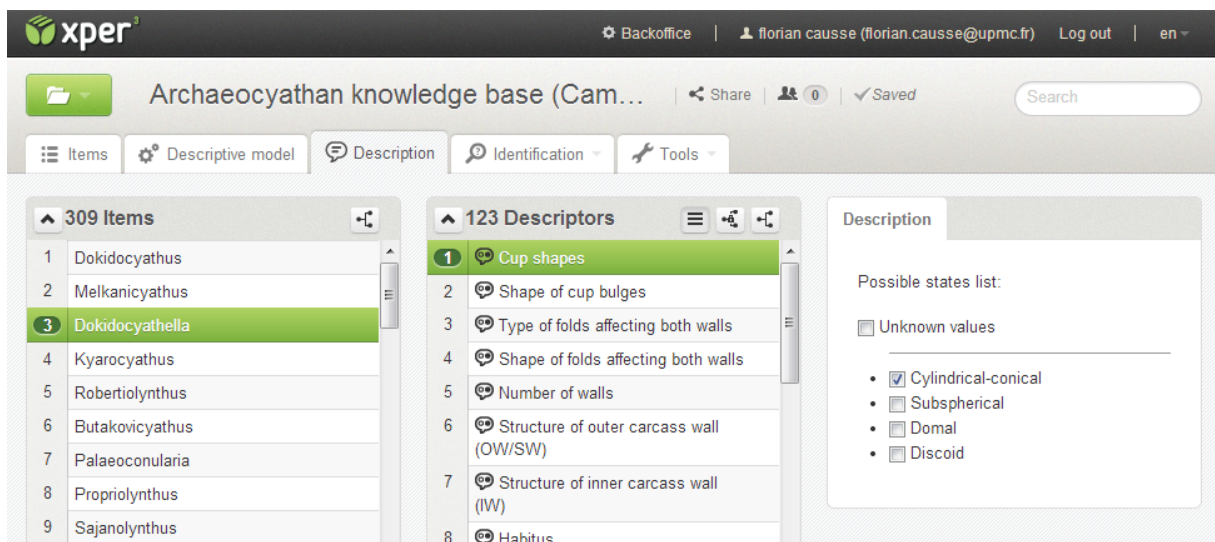

Resources edition

Resources can be added to an item, a descriptor or a state. The resources block is visible on the bottom right of the interface and allows the user to add images (JPEG, PNG or GIF), videos (MPEG or MP4), audio files (MPEG ou MP3) or other files. Each resource added must be accessible on the web using an URL. We recommend using www.dropbox.com (2 GB free space) to manage your

resources and add them in Xper3.com using the Dropbox button.
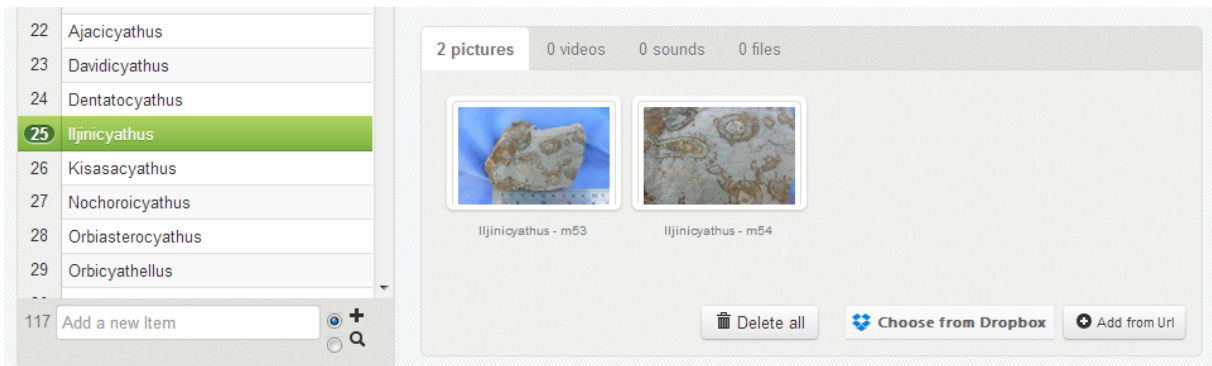
Import/Export

Data can be imported from CSV or SDD format and exported in CSV, SDD or Nexus format. These features are accessible in the main menu.
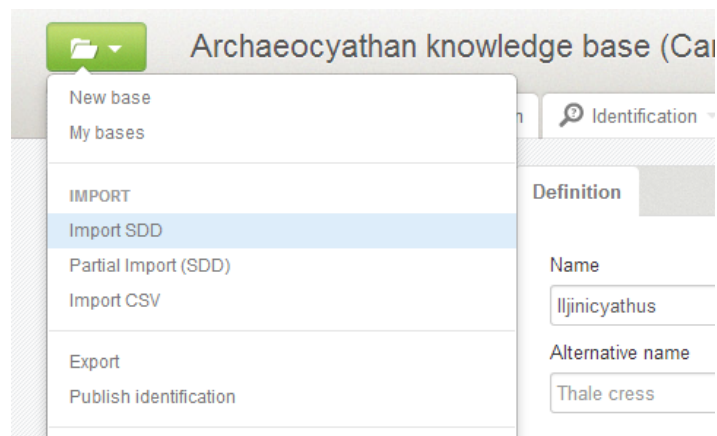
Collaborative work

Xper3 allows users to share their dataset and edit them simultaneously. To share a Knowledge base the user has to click on the "Share" link on the top and add the email address of the user he want to share his dataset with. The user also has to select the access rights (Edit or Read) of the invitee. The email address entered must be associated to an existing xper3 account.
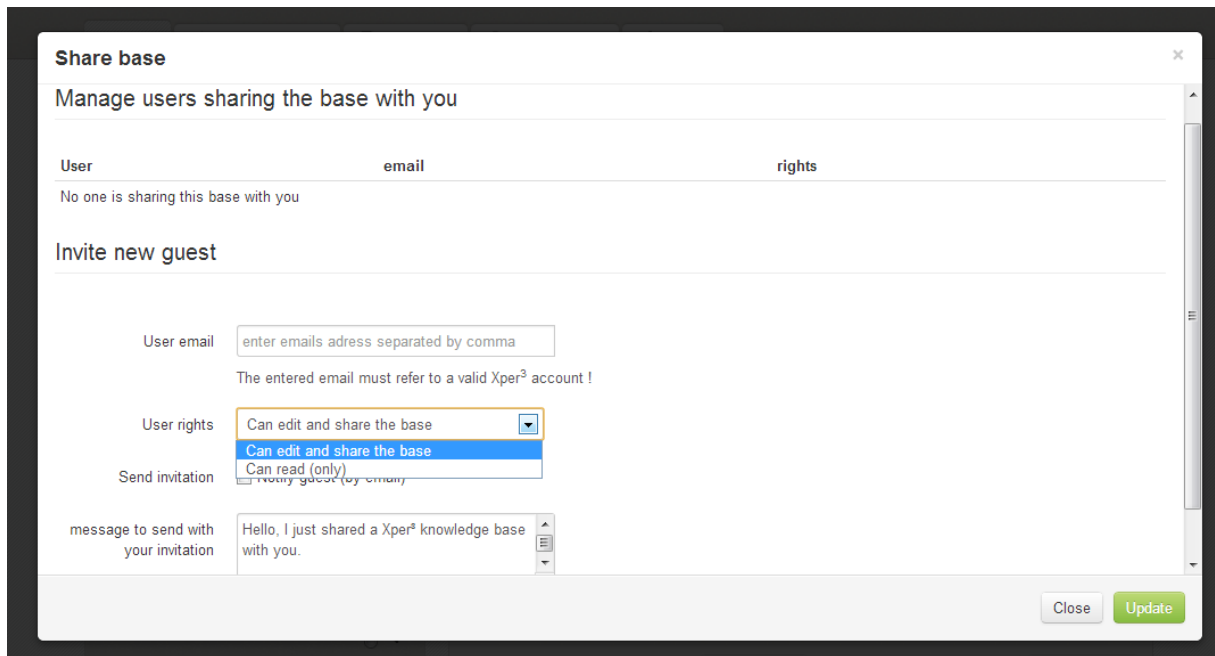
The users connected on the same knowledge base are visible when the cursor hovers the user icon.
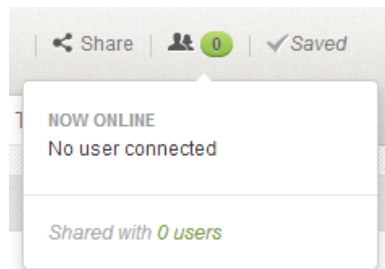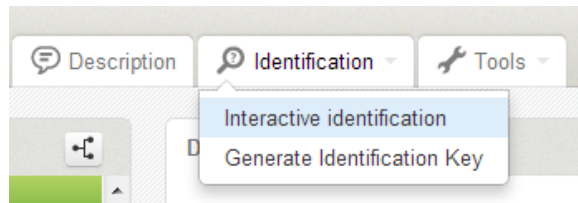

If two users are editing the same data, xper3 detect conflicts an proposes to choose wich version is to be kept (your version, the other user version or a custom version).
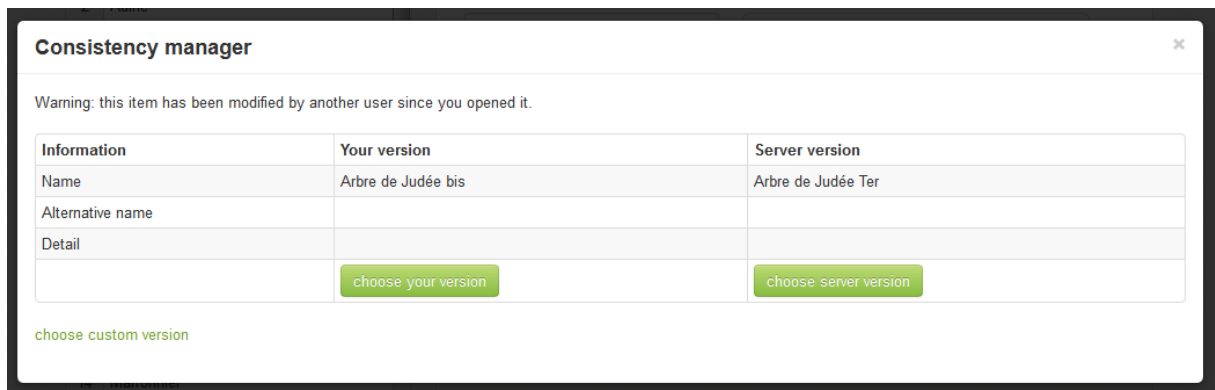
Identification

Xper3 can generate single-access identification keys and also features an interactive key player. These functionnalities are available in the "Identification" tab.

Interactive identification can also be provided to the general public using the "Publish identification" link in the main menu. A public URL will be generated to acces the interactive key without logging in.

Tools

The "Tools" tab allow acces to additional features :

- "View Description Matrix" -> view the descriptions as a matrix and edit undefined values
- "Compare Items" -> compare severals items
- "Compare Groups" -> compare items groups
- "Checkbase" -> check the consistency of the knowledge base