

Quick manual making a database

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Making a database(.mat)

EasyClus can use a database or library, which can be made on basis of own species. This database contains the combination of FCM-attributes data, the signals profiles and the images. The images are not always available.

DESIGN I, DESIGN2 (and GO) are unsupervised clustering methods, methods which are clustered on basis of the data, without using a database. This database can however be used to assign the cluster averages in a second round/step to species, which match with species in the database.

RULES, LASSO are supervised clustering methods. These clustering methods need a database (.mat) to assign individual particles into clusters.

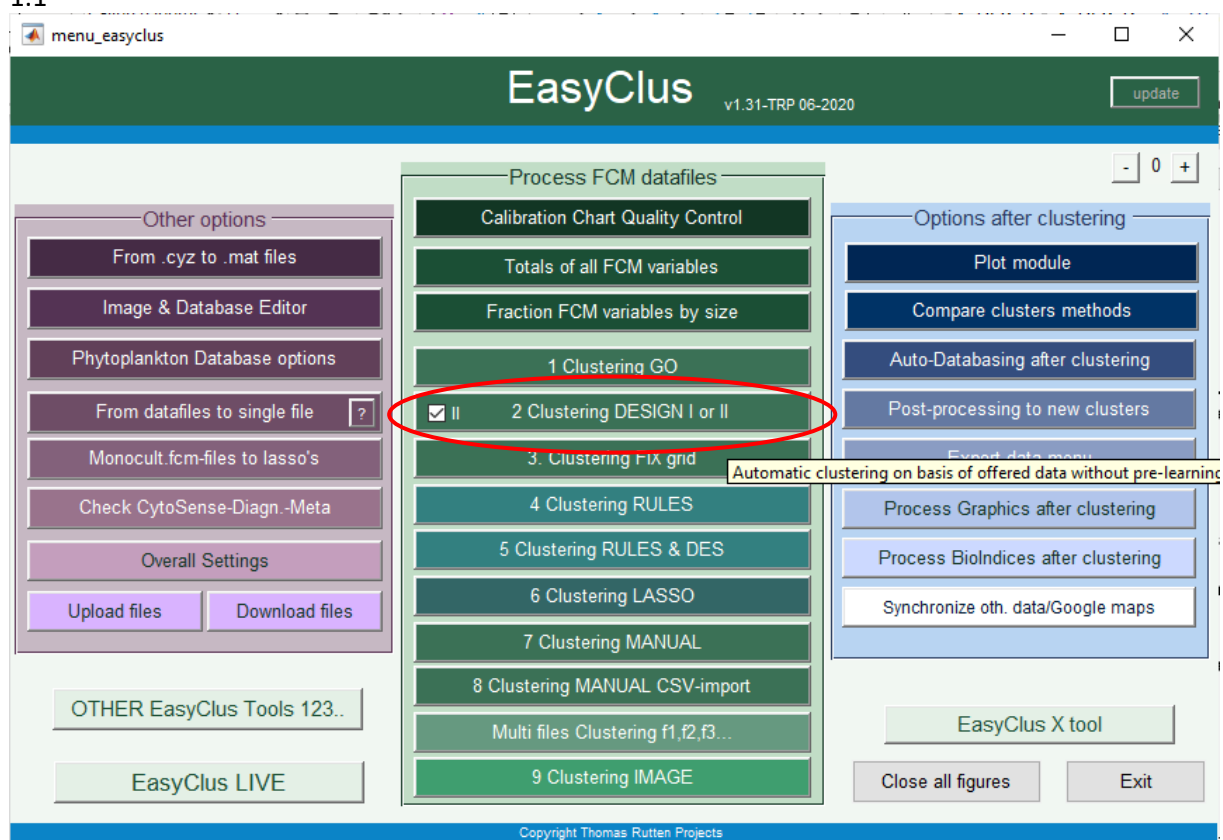
To build a database, we start with unsupervised clustering to get clusters. After that we put clusters in a database, which can be used for the clustering of samples.

There are several methods to build a database:

Method 1: Images are hardly available

- 1.1 Clustering by unsupervised method DESIGN II
- 1.2 Add a single cluster belonging to a species to a database
- 1.3 Repeat with other samples and with other clusters to add these cluster data to the database too
- 1.4 Clustering can be done by RULES or LASSO with this database

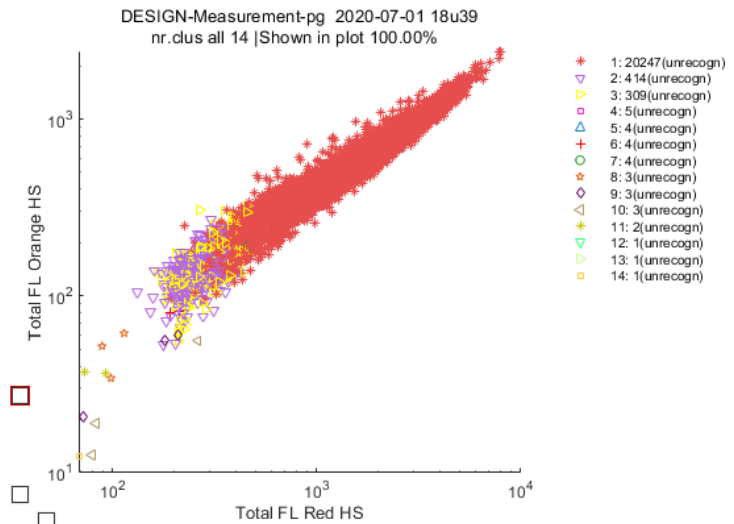
1.1

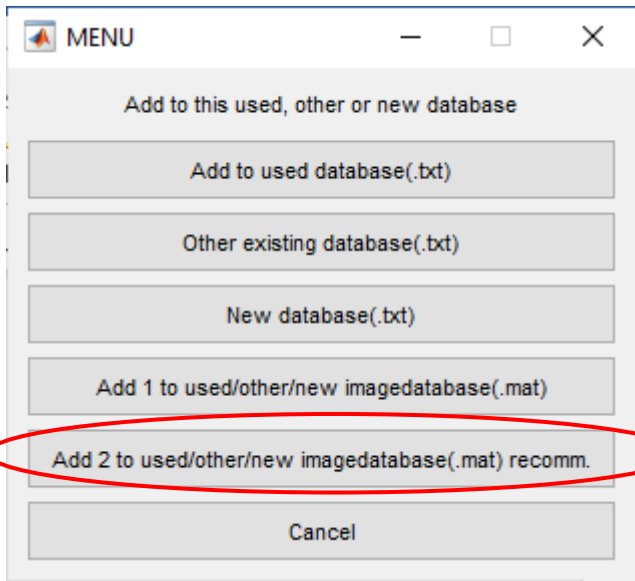


Use the settings below:

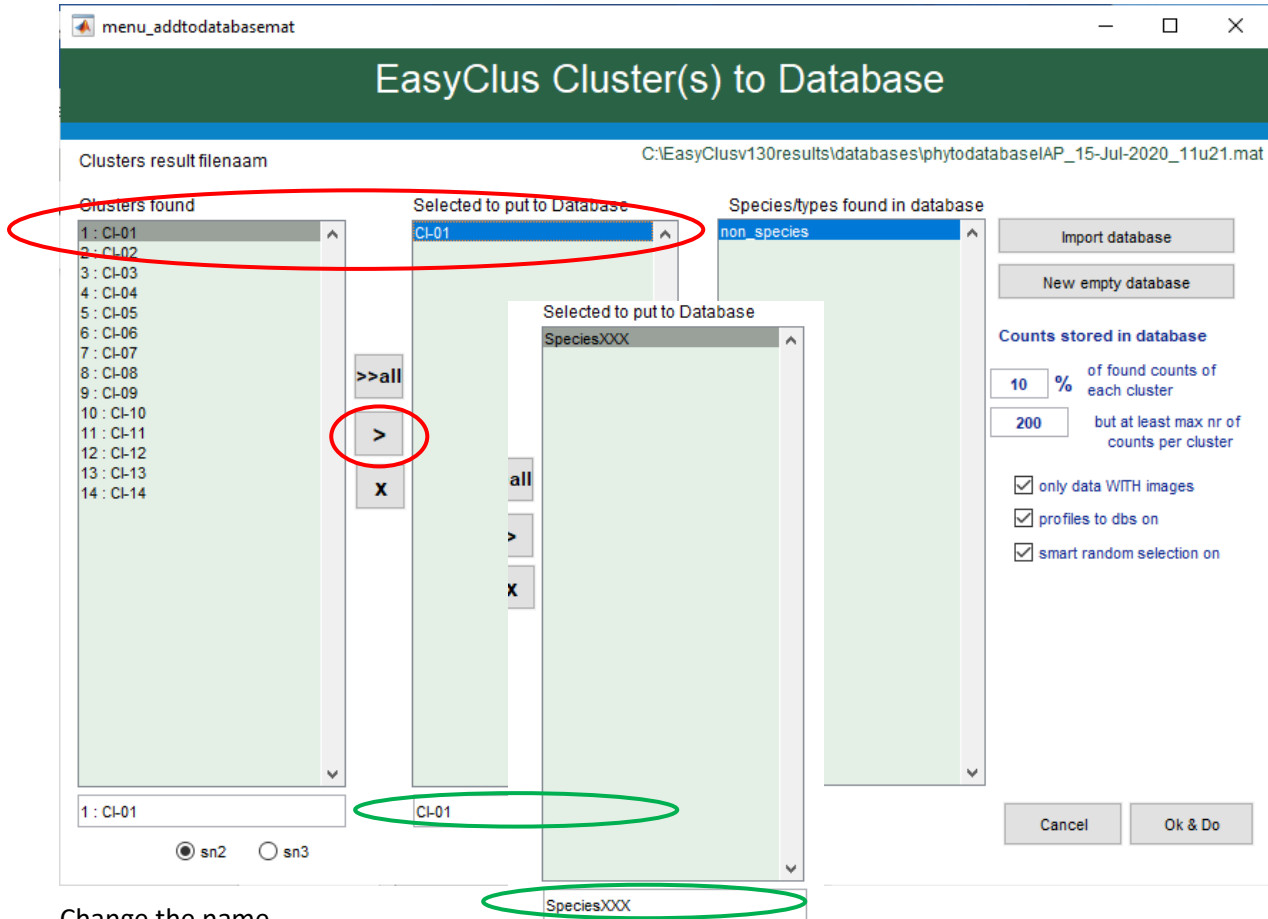
Clustering result:

We put cluster 1 in a new database



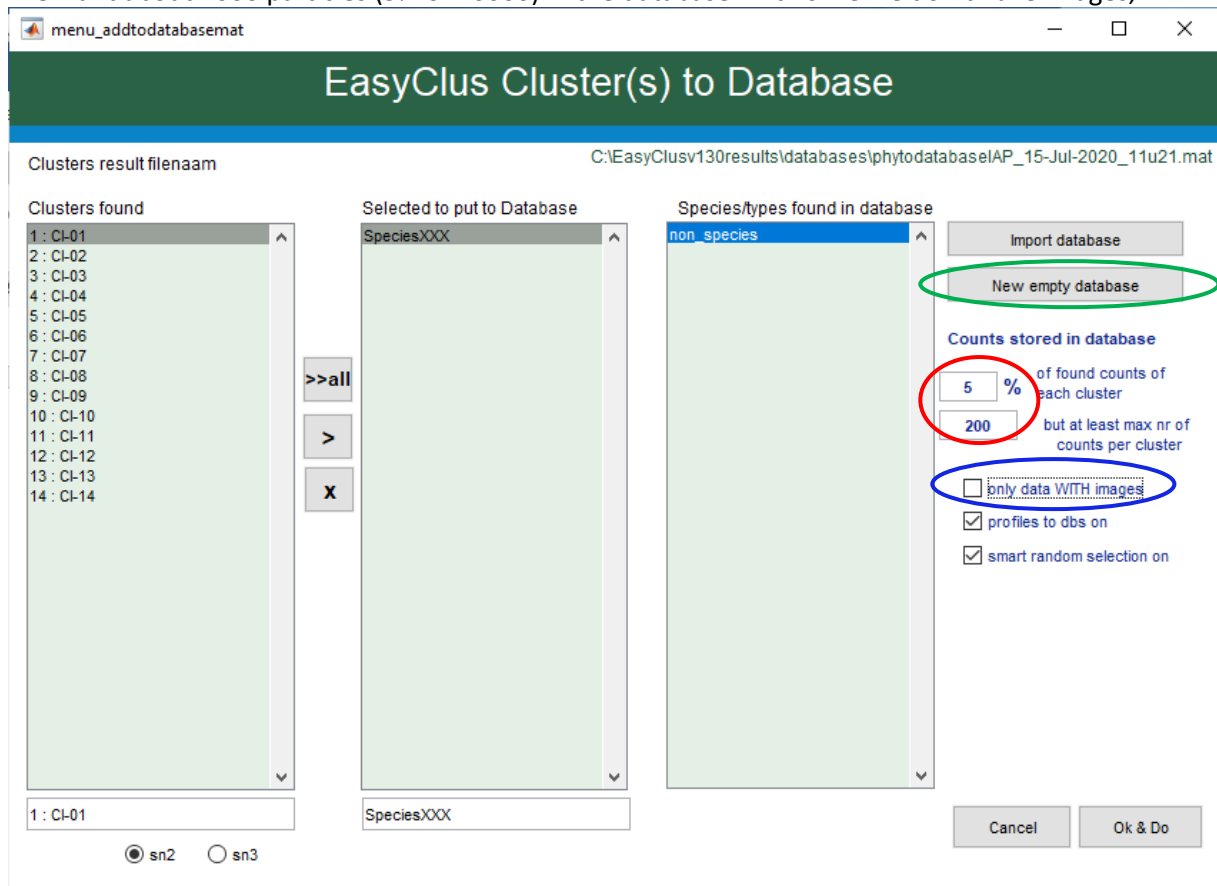


Select 1 : CL-01



Change the name

We start with a new empty database (button New empty database)
 We want about 1000 particles (5% of 20000) in the database. In this file we don't have images,



so we de-select 'Only images' (otherwise only data with an image will be put in the database, but that is zero particles in this sample).

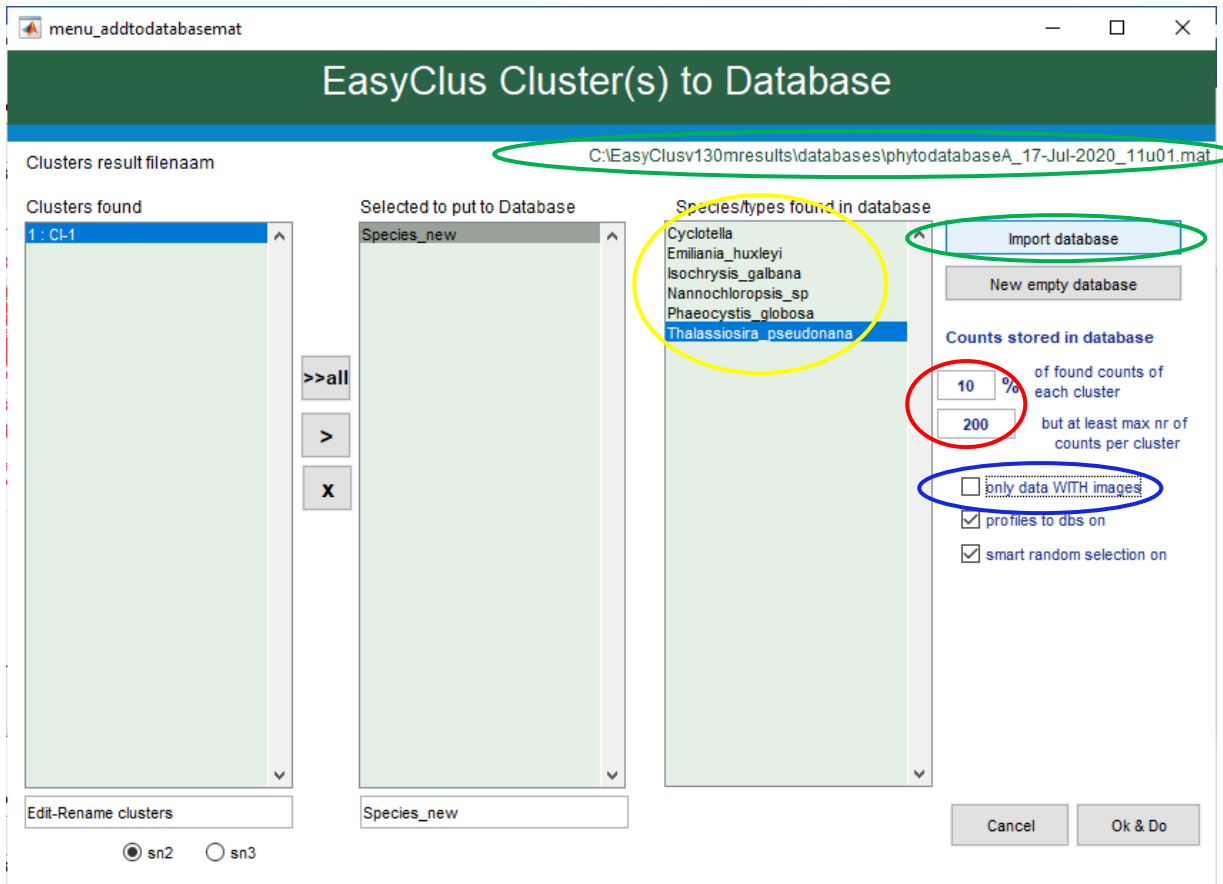
Press Ok & Do

```
Following clusters/species are stored in the database: C:\EasyClusv130results\databases\phytodatabaseIAP_15-Jul-2020_11u21.mat
1 (of 1): SpeciesXXX
! -> SpeciesXXX <- : NEW species added to C:\EasyClusv130results\databases\phytodatabaseIAP_15-Jul-2020_11u21.mat
Collecting profiles (1012)...
FINISHED collecting profiles
1012 events added to the database
```

Only the selected cluster 1 is added to the database

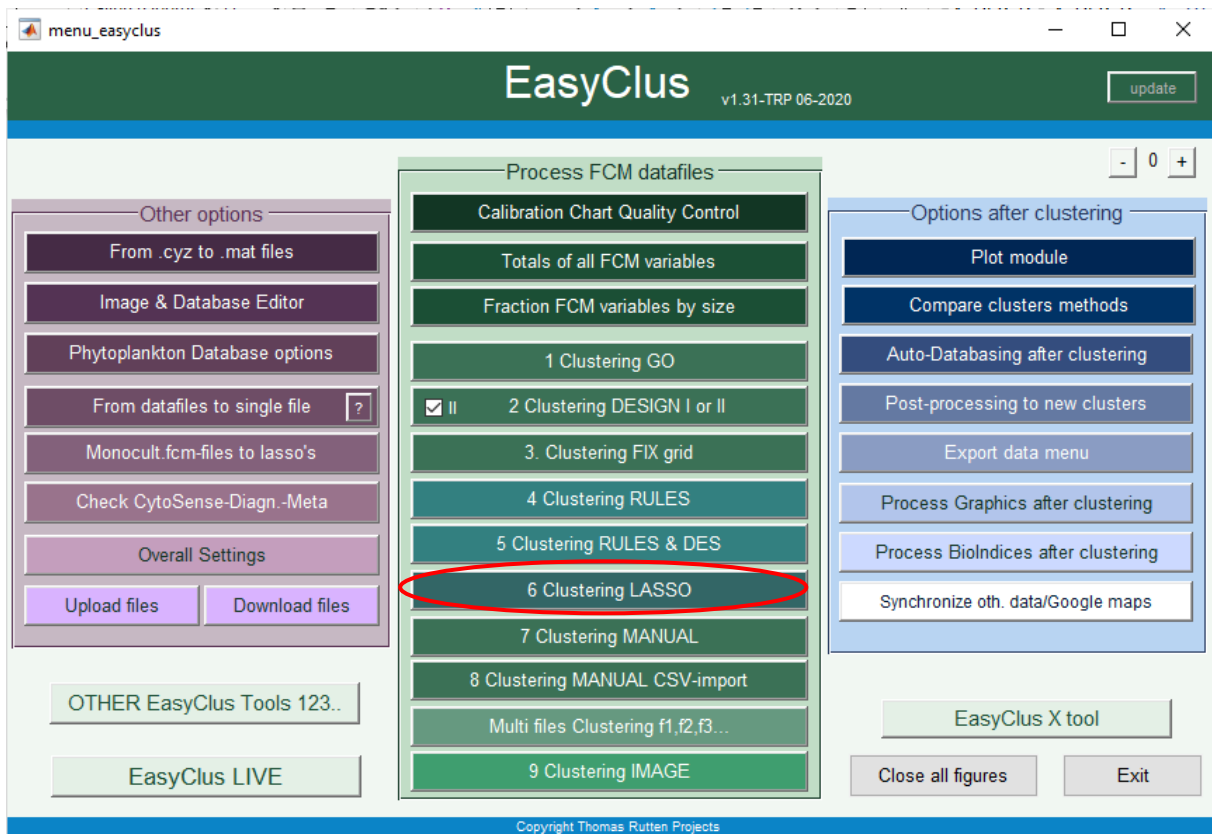
Repeat this with other samples and add clusters to THIS database by selecting the previous main database by the button 'import database'.

phytodatabaseA_17-Jul-2020_11u01.mat	17-7-2020 11:26	MATLAB Data	10,032 kB
phytodatabaseIAP_17-Jul-2020_11u24.mat	17-7-2020 11:24	MATLAB Data	1 kB

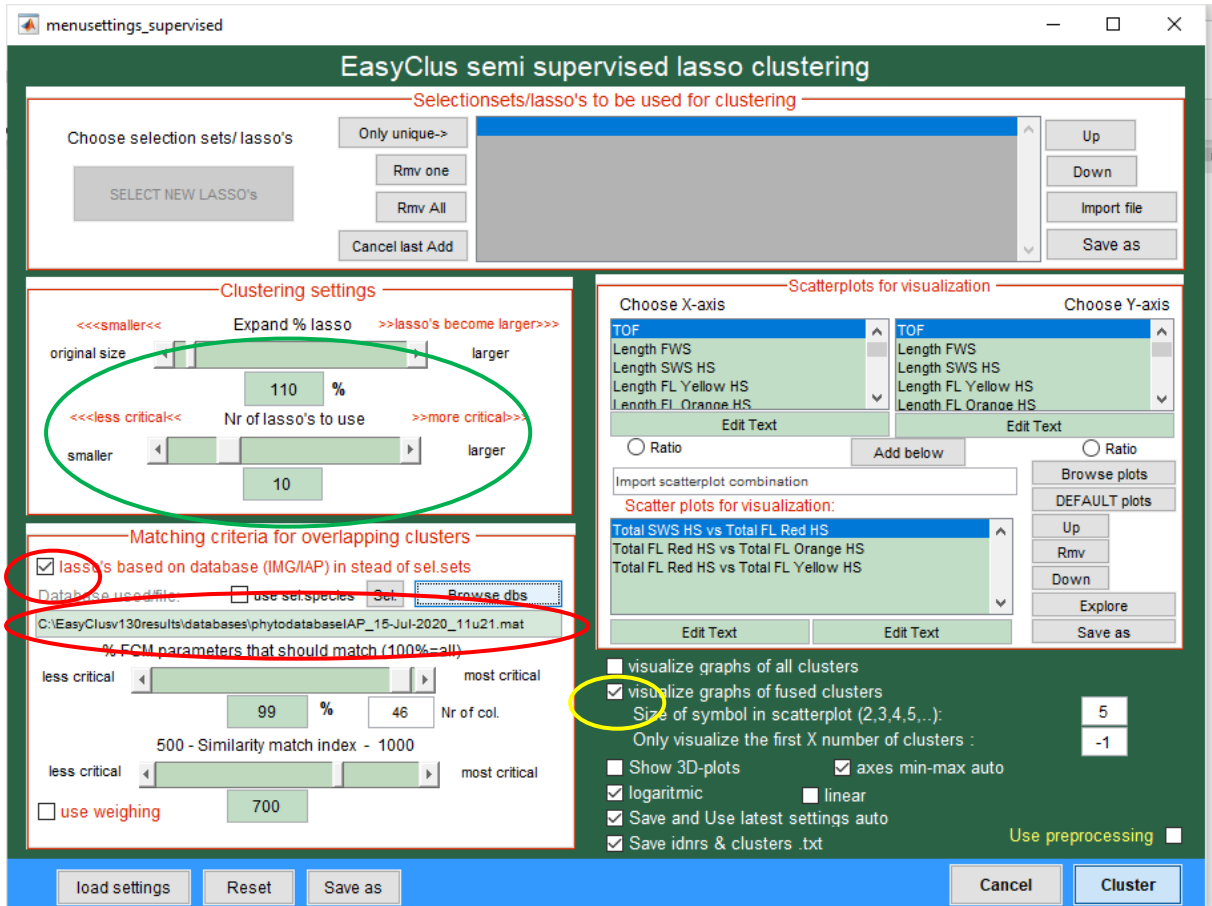


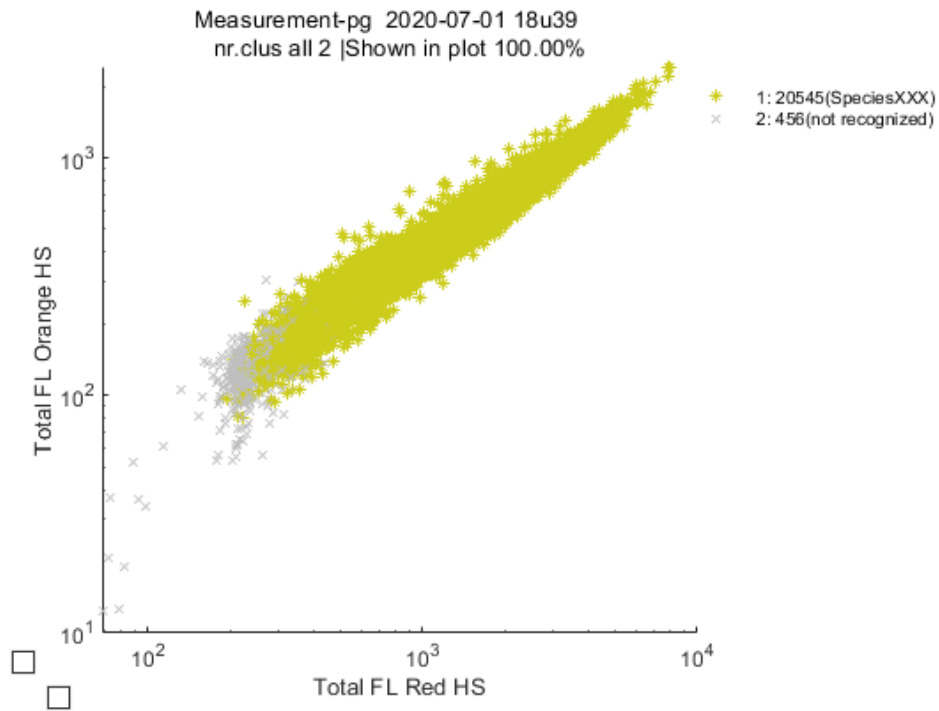
Species already in the database

We can cluster with e.g. LASSO by using this database



Import a file





Method 2: Enough images are available

- 2.1 Clustering by unsupervised method DESIGN II
- 2.2 Put all clustered data with an image to a database
- 2.3 Edit this database by the database editor by looking at the images for each species
- 2.4 Repeat with other samples
- 2.5 Clustering can be done by RULES or LASSO with this database

Method 3: Enough images are available X-tool