

## The Merging Software – Unresolved Problems

### 1. Overwriting of generic names

FE2 (Target database)	MAC (Incoming database)	Merged database
Alsine auct.	Alsine L. = synonym of <i>Stellaria</i>	Alsine auct. Alsine L.
	<i>Alsine gayana</i> Webb ex H.Christ	<i>Stellaria gayana</i> Webb ex H.Christ
	<i>Alsine platyphylla</i> Gay ex H.Christ	<i>Stellaria platyphylla</i> Gay ex H.Christ

During the merge the message was given ‘Name does not match exactly. New name is *Alsine L. = Alsine L.* Old name is *Alsine auct.* Do you want to add the new name?’

The first error to note here is that *Alsine L.* in the Macaronesia database is not a synonym of *Alsine L.* as suggested by the message, but a synonym of *Stellaria* (reported to RJP 19/02/02).

I answered yes to add the new name. In Macaronesia two names occur in the genus *Alsine L.* that do not occur in FE2. When these names were merged the generic name field was overwritten with *Stellaria*

#### Reported to RJP 21/02/02

### 2. Recording of conflicts that don’t exist

Wherever possible these conflict messages should be removed. I think it is extremely important that Reviewers and Revisers are only alerted to real conflicts or they could spend ages wondering what the conflict is when one doesn’t exist.

#### 2.a.

FE2 (Target database)	MAC (Incoming database)	Merged database
<i>Echinodorus</i> Engelm.	<i>Echinodorus</i> Rich. ex Engelm.	<i>Echinodorus</i> Engelm.
<i>Echinodorus</i> Engelm. <i>ranunculoides</i> (L.) Engelm. = synonym of <i>Baldellia ranunculoides</i> (L.) Parl.	<i>Echinodorus</i> Rich. ex Engelm. <i>ranunculoides</i> (L.) Engelm. = synonym of <i>Baldellia ranunculoides</i> (L.) Parl.	<i>Echinodorus</i> Engelm. <i>ranunculoides</i> (L.) Engelm. = synonym of <i>Baldellia ranunculoides</i> (L.) Parl.

When the merge software gets to *Echinodorus* Engelm. vs *Enchinodorus* Rich. ex Engelm. it asks if the taxa are the same. I say yes, and am then asked if I want to replace the old authority with the new one. Euro+Med Standards specify that only the validating authority should be present in the authority string so Rich. ex Engelm. should appear in the merged database as Engelm. Therefore I reply no as I don't want to replace the old authority with the new one. This is all perfect in the merged database.

The above table illustrates that *Echinodorus ranunculoides* has exactly the same authority strings in both databases and occurs as a synonym of exactly the same accepted name in both databases. The only difference is the generic authority for *Echinodorus*. But I have already said that *Echinodorus* Engelm. and *Echinodorus* Rich. ex Engelm. are the same thing so there should be no problem. However, two identical conflict records are recorded for *Echinodorus ranunculoides* that should not be there.

Conflict number: 1095  
 Taxon: *Echinodorus ranunculoides* (L.) Engelm.  
 Existing type: S  
 Incoming genus: *Echinodorus* Engelm.  
 Existing genus: *Echinodorus* Engelm.  
 Source: Flora of Macaronesia  
 Existing syn of:  
 Type of syn of:  
 In genus:  
 Incoming type: S  
 Incoming syn of: *Baldellia ranunculoides* (L.) Parl.  
 Type of syn of: A

### Reported to RJP 21/02/02

In addition the conflict message is inaccurate (Incoming genus = *Echinodorus* Engelm.) and does not record all the information needed to make the message clear (Existing syn of should say *Baldellia ranunculoides* (L.) Parl.), but this is irrelevant as the record shouldn't be there.

### 2.b.

FE2 (Target database)	MAC (Incoming database)	Merged database
<i>Amygdalus</i> L. Accepted	<i>Amygdalus</i> L. = Synonym of <i>Prunus</i>	<i>Amygdalus</i> L. Accepted
<i>Amygdalus communis</i> L. = synonym of <i>Prunus dulcis</i> (Mill.) D.A.Webb	<i>Amygdalus communis</i> L. = synonym of <i>Prunus dulcis</i> (Mill.) D.A.Webb	<i>Amygdalus communis</i> L. = synonym of <i>Prunus dulcis</i> (Mill.) D.A.Webb

During the merge I am informed 'Wrong status for *Amygdalus* L. Existing A incoming S. I am asked if I want to change the status of *Amygdalus* in the merged

database to which I respond no. A conflict record is generated to inform the checklist Reviewer that the status of *Amygdalus* needs looking at.

A conflict record is also generated for *Amygdalus communis* L. which is completely wrong as there is no conflict between the status of *Amygdalus communis* in the two databases, or the name which *A.communis* is a synonym of:

Conflict number: 583  
 Taxon: *Amygdalus communis* L.  
 Existing type: S  
 Incoming genus: *Amygdalus* L.  
 Existing genus:  
 Source: Flora of Macaronesia  
 Existing syn of:  
 Type of syn of:  
 In genus:  
 Incoming type: S  
 Incoming syn of: *Prunus dulcis* (Mill.) D.A.Webb  
 Type of syn of: A

**I have requested to RJP that such conflict messages are not generated.**

### 3. Name Type References added sometimes, but not always

It was requested in the document ‘The merging software – additional features required’ that incoming names that were identical to a name in the target database, and that were also synonyms of identical accepted names in both databases, should have the incoming source added in the name\_type\_reference field.

This appears to be happening in some cases but not in others.

#### 3.a.

FE2 (Target database)	MAC (Incoming database)	Merged database
Lepidotis P.Beauv. = synonym of Lycopodiella Holub	Lepidotis P.Beauv. ex Mirb. = K status	Lepidotis P.Beauv. = synonym of Lycopodiella Holub
Lepidotis cernua (L.) P.Beauv. = synonym of Lycopodiella cernua (L.) Pic.Serm.	Lepidotis cernua (L.) P.Beauv. = synonym of Lycopodiella cernua (L.) Pic.Serm.	Lepidotis cernua (L.) P.Beauv. = synonym of Lycopodiella cernua (L.) Pic.Serm.

In the above example I chose to say that the incoming and target *Lepidotis* were the same (conflicting generic authority string stored in authority conflicts table). But Flora of Macaronesia has not been added as a name\_type\_ref for *Lepidotis cernua* (L.) P.Beauv.; it has been correctly added as a name\_type\_ref for *Lycopodiella cernua* (L.) Pic.Serm.

**3.b.**

In this example, I chose to say that *Minuartia procumbens* (Vahl) Graebn. and *Minuartia procumbens* (Vahl) Asch. & Graebn. are the same. Macaronesia has been correctly added as a source for *Minuartia procumbens* in the merged database:

<b>FE2 (Target database)</b>	<b>MAC (Incoming database)</b>	<b>Merged database</b>
Minuartia procumbens (Vahl) Graebn. = synonym of Minuartia geniculata (Poir.) Thell.	Minuartia procumbens (Vahl) Asch. & Graebn. = synonym of Minuartia geniculata (Poir.) Thell.	Minuartia procumbens (Vahl) Graebn. = synonym of Minuartia geniculata (Poir.) Thell.

**3.c.**

In this example Flora of Macaronesia has been correctly added as a reference to *Amygdalus communis* L., despite the recording of a conflict (see 2.b.)

<b>FE2 (Target database)</b>	<b>MAC (Incoming database)</b>	<b>Merged database</b>
Amygdalus L. Accepted	Amygdalus L. = Synonym of Prunus	Amygdalus L. Accepted
Amygdalus communis L. = synonym of Prunus dulcis (Mill.) D.A.Webb	Amygdalus communis L. = synonym of Prunus dulcis (Mill.) D.A.Webb	Amygdalus communis L. = synonym of Prunus dulcis (Mill.) D.A.Webb

**4. Name Type References added when they shouldn't have been**

It was specifically stated in 'The merging software – additional features required' that when an incoming synonym is identical to an existing synonym, but the name is treated as a synonym of different accepted names, that the incoming source should not be added in the Name\_Type\_Ref field.

<b>FE2 (Target database)</b>	<b>MAC (Incoming database)</b>	<b>Merged database</b>
Notholaena vellea (Aiton) Desv. = synonym of Cosentinia vellea (Aiton) Tod.	Notholaena vellea (Aiton) Desv. = synonym of Cheilanthes catanensis (Cosent.) H.P. Fuchs	Notholaena vellea (Aiton) Desv. = synonym of Cosentinia vellea (Aiton) Tod.

In the current merged database *Notholaena vellea* has Macaronesia as a name\_type\_ref despite it being a synonym of a different name. This must be changed.

An identical name which is a synonym of different accepted names in the incoming and target database should not have the incoming source reference added in the merged database

## Reported to RJP 19/02/02

### 5. Conflict Messages in need of clarification

#### 5.a.

Conflict number: 1694

Taxon: *Noccaea procumbens* (L.) Rchb.

Existing type: S

Incoming genus: *Noccaea* Moench

Existing genus: *Noccaea* auct.

Source: Flora of Macaronesia

Existing syn of:

Type of syn of:

In genus:

Incoming type: S

Incoming syn of: *Hymenolobus procumbens* (L.) Nutt.

Type of syn of: A

The above conflict message reflects the following situation:

FE2 (Target database)	MAC (Incoming database)	Merged database
<i>Noccaea</i> auct.	<i>Noccaea</i> Moench	<i>Noccaea</i> auct. <i>Noccaea</i> Moench
<i>Noccaea</i> auct. <i>procumbens</i> (L.) Rchb. = synonym of <i>Hymenolobus</i> <i>procumbens</i> (L.) Nutt.	<i>Noccaea</i> Moench <i>procumbens</i> (L.) Rchb. = synonym of <i>Hymenolobus</i> <i>procumbens</i> (L.) Nutt.	<i>Noccaea</i> auct <i>procumbens</i> (L.) Rchb. = synonym of <i>Hymenolobus</i> <i>procumbens</i> (L.) Nutt.

In order to make the conflict message clearer I think that the 'Existing syn of' field should be filled in so that it is clear that the conflict is between the generic authorities

## Reported to RJP 18/02/02 & 20/02/02

**5.b.**

The above conflict message is clearer than the ones that appear for *Lupsia galactites* (L.) Kuntze:

FE2 (Target database)	MAC (Incoming database)	Merged database
Lupsia Kuntze	Lupsia Neck.	Lupsia Kuntze Lupsia Neck.
Lupsia Kuntze galactites (L.) Kuntze = synonym of Galactites tomentosa Moench	Lupsia Neck. galactites (L.) Kuntze = synonym of Galactites tomentosa Moench	Lupsia Kuntze galactites (L.) Kuntze = synonym of Galactites tomentosa Moench

Lupsia galactites (L.) Kuntze  
Existing type: S  
Incoming genus: Galactites Moench  
Existing genus:  
Existing syn of:  
Type of syn of:  
In genus:  
Incoming type: S  
Incoming syn of: Galactites tomentosa Moench  
Type of syn of: A

Lupsia galactites (L.) Kuntze  
Existing type: S  
Incoming genus: Galactites Moench  
Existing genus: Lupsia Kuntze  
Existing syn of:  
Type of syn of:  
In genus:  
Incoming type: S  
Incoming syn of: Galactites Moench  
Type of syn of: A

Neither of these conflict messages record what the conflict actually is - I think the conflict record should read:

Lupsia galactites (L.) Kuntze  
Existing type: S  
Incoming genus: Lupsia Neck  
Existing genus: Lupsia Kuntze  
Existing syn of: Galactites tomentosa Moench  
Type of syn of: A  
In genus: Galactites Moench  
Incoming type: S  
Incoming syn of: Galactites tomentosa Moench  
Type of syn of: A

This makes it clear that because *Lupsia galactites* (L.) Kuntze is a synonym of *Galactites tomentosa* Moench in both databases - then the problem must be to do with the generic authority.

**Reported to RJP 18/02/02 & 20/02/02**

## 6. Changing Name Types

### 6.a.

FE2 (Target database)	MAC (Incoming database)	Merged database
Amaranthus vulgatissimus auct. (synonym)	Amaranthus vulgatissimus Speg. (accepted)	Amaranthus vulgatissimus auct.  Amaranthus vulgatissimus Speg. (provisional)

At the time of merging the software locates the duplicate name and asks if the new name should be added. I select 'yes'. The incoming name is added as a provisional name although it is accepted in the Macaronesia database. In addition there is no conflict record associated with this name, so the original information that the name was accepted is lost. In addition the name\_type\_ref in the merged database for *A. vulgatissimus* Speg. is Flora of Macaronesia. This is incorrect information as *A. vulgatissimus* has the name\_type 'A' in Macaronesia. I think that the incoming *A. vulgatissimus* Speg. should be added as an accepted name with the name\_type\_ref Flora of Macaronesia. If added as a 'P' name a conflict should be recorded and Flora of Macaronesia should not be added as a reference.

### 6.b.

FE2 (Target database)	MAC (Incoming database)	Merged database
Solanum gracile Dunal (synonym)	Solanum gracile Otto	Solanum gracile Dunal (synonym)
Solanum gracile Sendtn. (provisional)		Solanum gracile Sendtn. (provisional)
		Solanum gracile Otto

In this example *Solanum gracile* Otto is correctly added as an accepted name. Why is it okay with this taxon, but not with *Amaranthus vulgatissimus* Speg. (see 6.a.)?

## 7. Incoming Synonyms Changed to 'P' Status

### 7.a.

FE2 (Target database)	MAC (Incoming database)	Merged database
Trifolium badium Schreb.	Trifolium badium Schreb.	Trifolium badium Schreb.
	Trifolium healdum = synonym of Trifolium badium Schreb.	Trifolium healdum = provisional name

An identical accepted name, *Trifolium badium* Schreb, occurs in both databases. In the incoming database *Trifolium badium* Schreb. has a synonym, *Trifolium healdum*, which does not occur in the target database. During the merge *Trifolium healdum* is added as a provisional name, and there is no link between *T.badium* and *T.healdum*. This must be a mistake. The synonym should be added with name\_type 'S' and with the link between it and its accepted name maintained. The incoming source reference should be added as the 'inclusion' reference to this synonym record

### Reported to RJP 19/02/02

#### 7.b.

FE2 (Target database)	MAC (Incoming database)	Merged database
Lupsia Kuntze	Lupsia Neck. = synonym of Galactites	Lupsia Kuntze Lupsia Neck.

I choose to add *Lupsia* Neck. as a new name at the time of merging. A conflict record is added for *Lupsia* Neck.:

Lupsia Neck.

Existing type: P

Incoming genus:

Existing genus:

Incoming type: S

Incoming syn of: Galactites Moench

Type of syn of: A

I don't think there should be a conflict recorded here. *Lupsia* Neck. should be of name\_type 'S' and should have a link with the accepted name maintained.

### 8. Basionyms

I have done some fairly rigorous testing to make sure that basionyms are being merged correctly. I have merged new accepted names where the basionym already occurred in FE2 prior to merging, new accepted names with new basionyms, accepted names that already occurred in FE2 with a basionym which is new to FE2, etc. It appears that all are working fine, apart from when the accepted name and the basionym are new to FE2, e.g. *Atalanthus microcarpus* with the basionym *Taekholmia microcarpa* occurs in Macaronesia, but the basionym in the merged database is the same as the accepted name. I reproduced this situation with made up new accepted names with new basionyms and exactly the same thing happened - the basionym was identical to the accepted name.

### Reported to RJP 19/02/02

## 9. Uninformed about accepted names when making a decision about what to do with synonyms

FE2 (Target database)	MAC (Incoming database)	Merged database
Cheilanthes vellea (Aiton) F.Muell = synonym of Cosentinia vellea (Aiton) Tod.	Cheilanthes vellea (Aiton) Copel. = synonym of Cheilanthes catanensis (Cosent.) H.P.Fuchs	Cheilanthes vellea (Aiton) F.Muell = synonym of Cosentinia vellea (Aiton) Tod.

At the time of merging I choose to say that *Cheilanthes vellea* (Aiton) F.Muell and *Cheilanthes vellea* (Aiton) Copel. are the same and to record the conflicting authority string. However I am not made aware that *Cheilanthes vellea* is recorded as a synonym of different accepted names in the two databases.

The merging software should warn me that they are synonyms of two different accepted names – I can then choose to record a conflict between names. This would also mean that Flora of Macaronesia would not be added as a reference to *Cheilanthes vellea* (Aiton) F.Muell in the merged database, which it is at the moment. This is entirely wrong as Flora of Macaronesia does not record *Cheilanthes vellea* as a synonym of *Cosentinia vellea*.

## 10. Authority conflicts not stored when the status of a name is in question

If I choose to treat two names with slightly different authority strings as the same at the time of merging, but they then turn out to be of different rank then the authority conflict isn't recorded, e.g. *Asparagus horridus* L. (accepted in Macaronesia with the synonym *A.stipularis* Forrsk.) vs. *Asparagus horridus* L.f. (synonym of *A.stipularis* Forrsk.). I select 'no' to the question for adding the incoming name, select 'yes' for the question 'is the status of the taxon resolved', and am then told that the names are of different status, and am asked again 'is the status of the taxon resolved'. At this stage I have to reply 'no' and the authority conflict is not recorded.

I am aware that L. and L.f. are different people, but in the same way as *Abies cephalonica* has Loudon and J.W. Loudon as authorities (and these two are different people as well) it is most likely that one of the sources has got the authority wrong and that is why, rather than adding the new name as you suggest, I would rather the conflict was recorded in the authority conflicts table. This makes it much easier for me to retrieve a list of problems of this sort for someone to take to the library. Or if they are sent out in the Checklist Review process in Family reports the problem will be highlighted.

I had this discussion with Stephen concerning *Abies cephalonica* Loudon vs J.W. Loudon, and he thought that this type of conflict should be stored.

**Reported to RJP 18/02/02 & 19/02/02**

## 11. Overwriting of Generic Authorities

The software detects identical generic names with different authority strings, for example:

FE2 (Target database)	MAC (Incoming database)
Chamaemelum Mill. Chamaemelum Vis.	Chamaemelum

The software then gives you the option either to select which *Chamaemelum* the incoming generic name matches, or to add the incoming name. I have already reported to RJP (18/02/02) what happens if you choose to add the authority-less *Chamaemelum* as a new name; because I don't know which is the correct *Chamaemelum* to match the Macaronesia database up with I choose to add the authority-less *Chamaemelum* as a new record and leave this to be sorted out later. However, if there are species records already in FE2 that are identical to incoming names, then the generic authority string for these names in the target database is overwritten with the generic authority string from the incoming database, and in the case of *Chamaemelum* this is blank, for example:

FE2 (Target database)	MAC (Incoming database)	Merged database
Chamaemelum Mill. nobile (L.) All.	Chamaemelum nobile (L.) All.	Chamaemelum nobile (L.) All.

RJP suggested rather than adding the generic name with no authority string, that I check Brummitt's *Vascular Plant Families and Genera* for the correct generic authority and match the incoming name with the correct genus and authority according to Brummitt. This has the effect of causing all identical names between the incoming and target databases to have their generic authority changed in the merged database if they were previously the generic authority that wasn't selected. In the case below *Chamaecytisus* Vis. and *Chamaecytisus* Link occur in FE2 and *Chamaecytisus* with no authority occurs in Macaronesia. During the merge the software asks me which genus I wish to match the Macaronesian *Chamaecytisus* with. Brummitt says Link is the correct authority so I select this one. The result is that any species that originally had Vis. as the generic authority in FE2, and also occurs in Macaronesia, without a generic authority, has had the original generic authority overwritten in the merged database.

FE2 (Target database)	MAC (Incoming database)	Merged database
Chamaecytisus Vis. dalmaticus Vis.	Chamaecytisus dalmaticus Vis.	Chamaecytisus Link dalmaticus Vis.

However, this doesn't happen if the incoming genus name already has an authority. For example:

FE2 (Target database)	MAC (Incoming database)
Danae auct. Danae Colla	Danae Medik

Danae Sm.	
Danae Sm. gayae Webb	Danae Medik gayae Webb

During the merge I am asked whether I want to add the genus as a new name or match it with an existing genus. Whichever option I choose has the same results.

By adding *Danae Medik* as a new name I am alerted to the fact that the existing taxon (*Danae gayae*) is in genus *Danae Sm.* and the incoming taxon is in genus *Danae Medik*. I am then asked what I want to do about it. I can say the conflict is resolved (in which case *Danae Medik gayae* will overwrite *Danae Sm. gayae*) or I can say the conflict is not resolved, whereby a conflict record will be generated for alerting Reviewers and Revisers to the difference in generic authority.

By matching *Danae Medik* with one of the names in the target database, such as *Danae Colla*, I am still alerted to the fact that the existing *Danae gayae* is in genus *Danae Sm.* and the incoming one is in *Danae Colla*. This option is not the preferred one where the incoming generic names have authorities as there is no way of knowing that *Danae Medik* was recorded in the incoming database by the Reviewers or Revisers unless they look at a copy of the original database.

However, if the incoming authority was blank, as with most of the generic names in Macaronesia, then it wouldn't matter that they don't know what the Macaronesian authority is as there is not a conflict. It would also mean that I am alerted as to whether generic authorities are going to be overwritten or not.

Therefore, please could the same rules apply to incoming generic names with no authorities, as apply to those with authorities.

## 12. Family names overwritten

FE2 has the family Juncaceae as an accepted family and Macaronesia has the family Jungaceae as an accepted family. Because both families contain the genus *Juncus* I assume they are the same. After merging, all taxa that belonged to the family Juncaceae in the target database now belong to the Jungaceae. I was not informed that this was going to happen at any time during the merge.

