

## InfoVeg - Bug #2581

### Children should occur in map of parent

10/27/2006 03:31 PM - Michael Lee

<b>Status:</b>	In Progress	<b>Start date:</b>	10/27/2006
<b>Priority:</b>	Immediate	<b>Due date:</b>	
<b>Assignee:</b>	Xianhua Liu	<b>% Done:</b>	0%
<b>Category:</b>	atlas	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	Unspecified	<b>Spent time:</b>	0.00 hour
<b>Bugzilla-Id:</b>	2581		

#### Description

Mapping of CVS data is not handled consistently for taxa with infraspecific members. For example, a search on *Acer rubrum* produces a map with CVS data for *A. rubrum* only, with no var. *rubrum* or var. *trilobum* CVS records shown. A search on *Acer rubrum* var. *rubrum* yields a map with CVS records for var. *rubrum*, but no species level *A. rubrum* CVS data. Mapping is not handled this way for the other data sources. (The same problem does appear to apply to NCNHP data, however. Try mapping *Hymenocallis occidentalis* compared to *H. occidentalis* var. *occidentalis*.)

RKP: A map of *Acer rubrum* var. *rubrum* shows some counties with CVS records that are not present in the map of *Acer rubrum* (eg NC Randolph, Davidson, Rowan, Catawba, Alexander; TN Monroe, Carter). CVS vars should nest up into the parent!! This is an error that needs to be fixed. Perhaps this applies to other data types that conform to Weakley concepts (eg NCNHP)?

#### History

##### #1 - 10/27/2006 04:11 PM - Michael Lee

contributed by Lisa Giencke & Stephen Seiberling  
Comments by Bob Peet followed by RKP:

##### #2 - 10/29/2006 11:07 AM - Xianhua Liu

In NCU flora (the website), different data sources (e.g. CVS, NCU) follow different concept standards (e.g. Weakley, Small). These source-concept mappings are stored in the database and can be changed easily. Currently, CVS and NCNHP are set to follow Weakley's concepts. Since we query by Weakley's concepts, all hits in these sources contain no ambiguity. For other sources, such as NCU, the concept standards are not clear. So we set them to follow the nominal concepts. If a nominal concept is greater than the Weakley's concept by which we run the query, specimens of that nominal concept will be treated as ambiguous identifications.

##### #3 - 10/30/2006 03:00 PM - Robert Peet

There remains a pervasive and important problem that a map of a taxon does not necessarily include its children. This needs to be fixed.

One example is the *Acer rubrum* one given in the original description of the bug. CVS records for subspecific taxa do appear in the maps of the parent species.

A similar but slightly different case occurs where Weakley splits a species into vars whereas RAB recognized only the full species. Two examples are *Acer negundo* and *Toxicodendron radicans*. None of the Radford records, which were reported as full species, appear in the maps of the full species, but they do occur ambiguously in the variety maps.

##### #4 - 11/05/2006 03:04 PM - Xianhua Liu

Whether or not children taxa are included depends on whether or not relationships are made between the parent and its children. The querying algorithm will search all related concepts in all data sources. Since there is a relationship: *Acer rubrum* (Alan Weakley) > *Acer rubrum* var. *rubrum* (nominal) and given that NCU follows nominal concepts, *Acer rubrum* var. *rubrum* from NCU should be included in the result when querying by *Acer rubrum* (Alan Weakley).

##### #5 - 11/05/2006 10:06 PM - Robert Peet

Not yet fixed.

A search on *Hymenocallis occidentalis* has far fewer counties shaded than a search on *Hymenocallis occidentalis* var. *occidentalis*? This should never be the case!

If you compare the CVS maps of *Acer rubrum* var. *rubrum* & *A. rubrum* you will find variety records that are not present in the species map.

Variety records should nest up and become species records.

##### #6 - 12/01/2006 04:52 PM - xianhua liu

I checked the *Hymenocallis occidentalis* and *Hymenocallis occidentalis* var. *occidentalis* records and list their related concepts as following:

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Hymenocallis occidentalis:  
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1. *Hymenocallis occidentalis* (Alan Weakley) <= *Hymenocallis* sp. (GW)
2. *Hymenocallis occidentalis* (Alan Weakley) <= *Hymenocallis occidentalis* (S)
3. *Hymenocallis occidentalis* (Alan Weakley) = *Hymenocallis occidentalis* var. *occidentalis* (Z)
4. *Hymenocallis occidentalis* (Alan Weakley) = *Hymenocallis occidentalis* var. *occidentalis* (FNA)
5. *Hymenocallis occidentalis* (Alan Weakley) = *Hymenocallis occidentalis* (Z)
6. *Hymenocallis occidentalis* (Alan Weakley) = *Hymenocallis occidentalis* (FNA)

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Relationships to nominal concepts:

7. *Hymenocallis occidentalis* (Alan Weakley) <= *Hymenocallis* sp. (nominal)
8. *Hymenocallis occidentalis* (Alan Weakley) <= *Hymenocallis occidentalis* (nominal)
9. *Hymenocallis occidentalis* (Alan Weakley) = *Hymenocallis occidentalis* var. *occidentalis* (nominal)

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Hymenocallis occidentalis var. occidentalis:  
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1. *Hymenocallis occidentalis* var. *occidentalis* (Alan Weakley) = *Hymenocallis occidentalis* var. *occidentalis* (FNA)
2. *Hymenocallis occidentalis* var. *occidentalis* (Alan Weakley) < *Hymenocallis* sp. (GW)
3. *Hymenocallis occidentalis* var. *occidentalis* (Alan Weakley) ? *Hymenocallis caroliniana* (K)
4. *Hymenocallis occidentalis* var. *occidentalis* (Alan Weakley) < *Hymenocallis occidentalis* (S)
5. *Hymenocallis occidentalis* var. *occidentalis* (Alan Weakley) = *Hymenocallis occidentalis* var. *occidentalis* (Z)
6. *Hymenocallis occidentalis* var. *occidentalis* (Alan Weakley) = *Hymenocallis occidentalis* (Z)
7. *Hymenocallis occidentalis* var. *occidentalis* (Alan Weakley) = *Hymenocallis occidentalis* (FNA)

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Relationships to nominal concepts:

8. *Hymenocallis occidentalis* var. *occidentalis* (Alan Weakley) = *Hymenocallis occidentalis* var. *occidentalis* (nominal)
9. *Hymenocallis occidentalis* var. *occidentalis* (Alan Weakley) < *Hymenocallis* sp. (nominal)
10. *Hymenocallis occidentalis* var. *occidentalis* (Alan Weakley) ? *Hymenocallis caroliniana* (nominal)
11. *Hymenocallis occidentalis* var. *occidentalis* (Alan Weakley) <= *Hymenocallis occidentalis* (nominal)

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Noticed that *Hymenocallis occidentalis* var. *occidentalis* has a "?" relationship to *Hymenocallis caroliniana* (K), while *Hymenocallis occidentalis* does not. So *Hymenocallis occidentalis* var. *occidentalis* has more related nominal concepts, which results in more records found for *Hymenocallis occidentalis* var. *occidentalis*.

To resolve this problem, we need new inferring rule to handle the situation where a concept has a child concept that has "?" relationship with another concept. What is the relationship between the parent concept to that concept?

**#7 - 12/02/2006 10:52 AM - Robert Peet**

The problem remains that children need to nest up into their parents. For example, all *Acer rubrum* var *rubrum* sec Weakley records should occur in the map of *Acer rubrum*. They do not. This is a problem with many taxa. Perhaps the solution is to add relationships to the relationship list pointing all children of a taxon to its parents in the system of the parent. For example, there should be a generic relationship that 'Aus beus var whatever' Weakley < 'Aus beus' Weakley, which would then cause all the records of 'Aus beus var whatever' sec Weakley to appear in the map of 'Aus beus'.

**#8 - 12/03/2006 11:00 AM - xianhua liu**

Considering the *Hymenocallis occidentalis* example, to include *Hymenocallis caroliniana* (nominal) records in the map of *Hymenocallis occidentalis* sec Weakley, we need a relationship between them, that is to say, we need to infer the relationship between the parent to its children's related concepts to decide whether a record from a data source is ambiguous or not. For example:

Given: A (Weakley) > A var a (Weakley)

- if A var a (Weakley) = B (Small) then A (Weakley) > B (Small)
- if A var a (Weakley) > B (Small) then A (Weakley) > B (Small)

However, if A var a (Weakley) < B (Small) then what? It is OK if we already have a relationship between A (Weakley) and B (Small) at the parent level. We just use it. But if there is no one, we need to infer it. Could we just assume A (Weakley) < B (Small)? Obviously, it is not reasonable. To express this dilemma in another way, ambiguous record of a children concept is not necessarily ambiguous for its parent. What is the better way to resolve this problem?

**#9 - 03/27/2013 02:20 PM - Redmine Admin**

Original Bugzilla ID was 2581