

## Flexible editing tools to assemble and summarise different values for a selected field

Applies to v. 7.3.2 onwards

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*The following functions were developed collaboratively with Tim Pearce (RBG Kew) and Marcelo Moro during his one year study period at RBG Kew.*

### Introduction

In BRAHMS, when using RDE, extract, link and plot sample files, the option **Edit > Character/memo field processing > Assemble field values for same records** assembles values from a selected target field for all records grouped on a selected index field to a selected results field. The option is flexible and can be used to summarise any selected field against any other character or numeric field in the same file. Examples are to list all habit, habitat, vegetation classes, floristic regions or collection years per species; to list all genera per country; or to list all countries collected in by each collector. Using a second option **Edit > Character/memo field processing > Count word occurrences in text string and add totals**, these lists can be further processed to provide a sorted list of values with totals. The calculated summary fields can be included in text reports.

#### Lantana (5 species)

*Lantana caatingensis* Moldenke **Habits:** shrub(1). **States:** BA(1). **Habitats:** Sed.

*Lantana camara* L. [Synonyms: *Lantana mista* L.] **Habits:** shrub(15); subshrub(4). **Life forms:** phanerophyte(8). **States:** BA(3); CE(8); PB(10); PE(17); PI(3); RN(2). **Habitats:** Agre, Cryst, Diam, Ins, Riv, Sed, Trans, Unc.

*Lantana canescens* Kunth **Life forms:** phanerophyte(1). **States:** BA(1); PI(1). **Habitats:** Sed.

*Lantana fucata* Lindl. **Habits:** shrub(1); subshrub(1). **Life forms:** chamaephyte(1). **States:** CE(2). **Habitats:** Sed, Trans.

*Lantana montevidensis* (Spreng.) Briq. [Synonyms: *Lantana sellowiana* Link & Otto] **Life forms:** phanerophyte(1). **States:** PB(1). **Observations:** According to specialist T.R.S. Silva this species occurs in the Pampas and in the Atlantic Forest in the South of Brazil. It is unlikely that this species also occurs in the semiarid of Northeastern Brazil and it is almost certainly a misidentification.. **Habitats:** Ins.

*In the first example for the genus Lantana, the habit, states, life forms and habitats have been summarized for multiple records per species. In this case, the data were in a sample plot file. The data are formatted into a document using a text report.*

## Afrocarpus

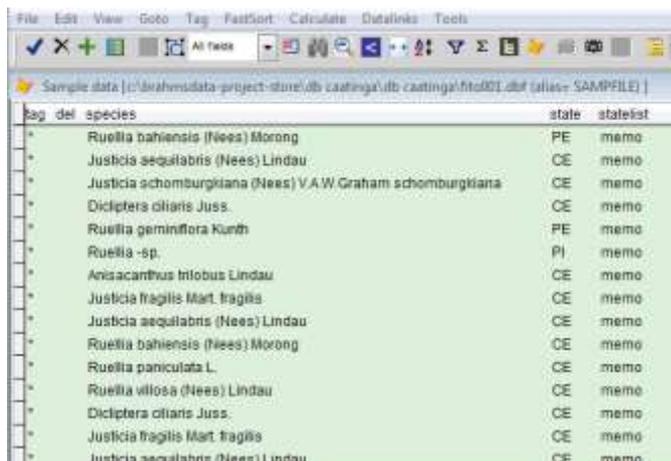
Burundi(1); Cameroon(1); Congo Democratic Republic(4); Ethiopia(21); Kenya(59); Malawi(2); Mozambique(5); Rwanda(1); South Africa(34); São Thomé Príncipe(2); Tanzania(107); Uganda(16)

In the second example, the number of collections per country for the genus *Afrocarpus* have been summarized from a botanical record extract file. The data are formatted into a document using a text report.

### Step 1: assemble values

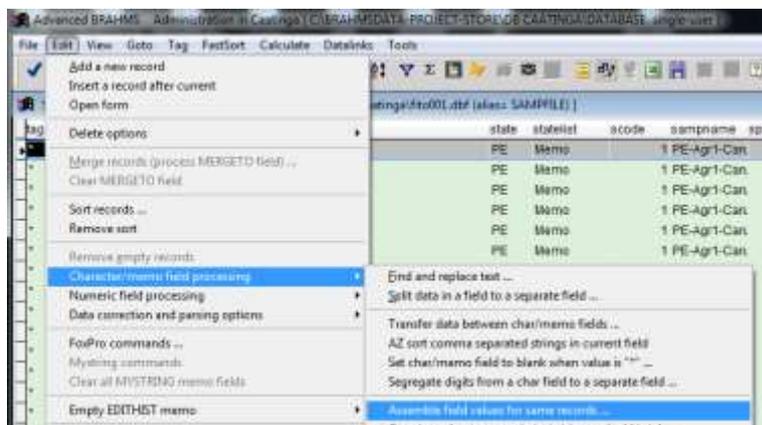
The option **Edit > Character/memo field processing > Assemble field values for same records** starts by indexing the file on the selected field, for example 'species'. This is known as the index field. It then assembles all the values from a target field you select in the same file (e.g. HABIT, MAJORAREA or COUNTRY.) for each different value in the index field and it copies these assembled values to a results field which you can choose. The values are separated by a selected character or a space.

In the following example the function is used in a plot sample data file to list all (coded) states in Brazil that each species was located in, according to an on-going research project on Caatinga vegetation.

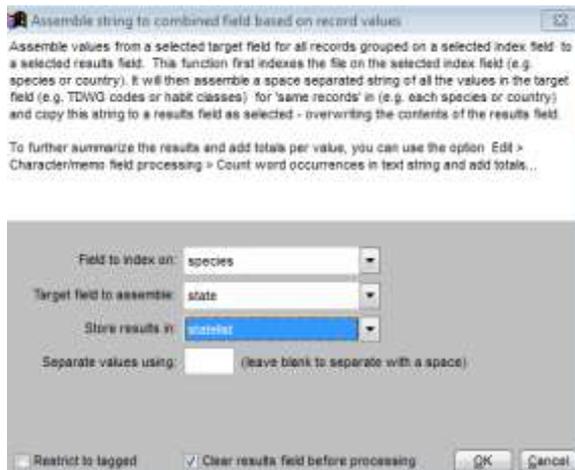


tag del especies	state	state1st
Ruellia bahiensis (Nees) Morong	PE	memo
Justicia seculabris (Nees) Lindau	CE	memo
Justicia schomburgkiana (Nees) V.A.W. Graham schomburgkiana	CE	memo
Dicliptera oltaris Juss.	CE	memo
Ruellia geminiflora Kunth	PE	memo
Ruellia -sp.	PI	memo
Anisacanthus trilobus Lindau	CE	memo
Justicia fragilis Mart. fragilis	CE	memo
Justicia seculabris (Nees) Lindau	CE	memo
Ruellia bahiensis (Nees) Morong	CE	memo
Ruellia paniculata L.	CE	memo
Ruellia villosa (Nees) Lindau	CE	memo
Dicliptera oltaris Juss.	CE	memo
Justicia fragilis Mart. fragilis	CE	memo
Justicia seculabris (Nees) Lindau	CE	memo

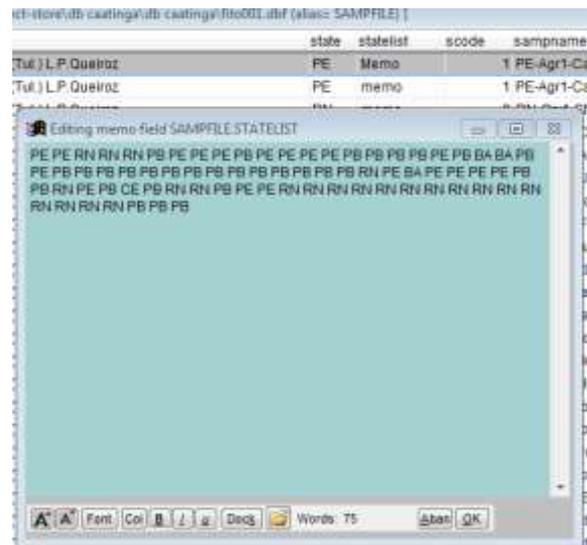
All data file records include the species name and the Brazil state that the record was collected from. The memo field STATELIST has been added ready to receive the results.



## Choosing the Edit menu option to Assemble data



The values selected on the form, ready to process.

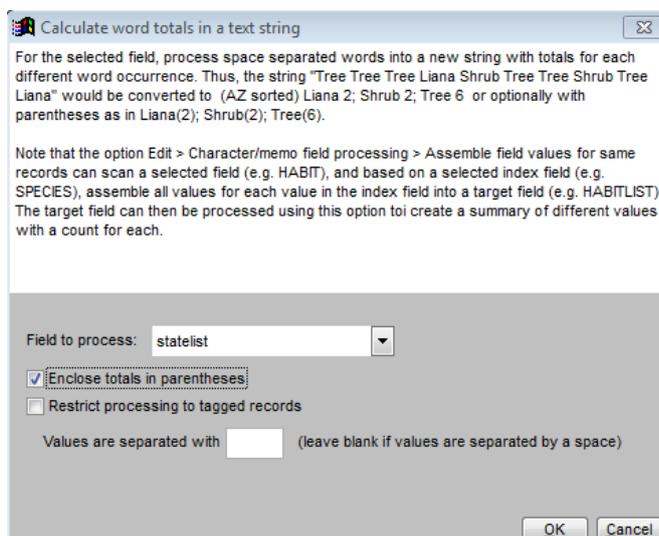


Preliminary results are added to STATELIST for the first index record in each group (in this case, SPECIES).

## Summarize word occurrences

In some cases, the list achieved above may be all that is needed. However in this example, clearly, it will be appropriate to make a unique, sorted list with totals.

Using **Edit > Character/memo field processing > Count word occurrences in text string and add totals...**, it now becomes possible to process these data into a more useful calculated field for reports.



species	state	statel
Anadenanthera colubrina (Vell.) Brenan	PE	Mem
Bauhinia cheilantha (Bong.) Steud.	PE	Mem
Bidens bipinnata L.	PE	Mem
Cereus jamacaru DC.		
Cnidioscolus urens (L.) Art		
Commelina -sp.		
Commiphora leptophloeos		
Croton -sp.		
Croton heliotropifolius Ku		
Croton sonderianus Müll.A		
Cynophalla flexuosa (L.) J.		
Delilia biflora (L.) Kuntze		
Guanira novia (Netto) Lun		

Editing memo field SAMPFIELD.STATELIST  
 BA(1); CE(1); MG(10); PB(14); PE(10); RN(5)

The original results processed to an AZ list with totals.

The resulting field is then easily added to a Text Report.

Editing report: C:\BRAHMSDATA-PROJECT-STORE\DB CAATINGA\MYREPORTS\MARCELOCHECKLIST1.DBF (c:\brahmsdata-project-store)

Quick summaries | Text reports | Edit template | Help

Position	Lines before	Text before	Print code	Spaces	Field name	Print code	Caps	Decimal places	Text after
	0 0	Nomenclature note:	B	1	tout.nomnote				
	0								
	1 2	<span style="font-size:1.8em;">			tout.FAMCLASS		F		</span>
	3 1	<span style="font-size:1.0em;color:red;">			tout.family	B	T		</span>
	4	(		0	tout.famgentot		F		genera;
	6			0	tout.famsptot		F		species)<hr>
	8 1	<span style="font-size:1.0em;">			tout.genus	B	F		
	10	(			tout.gensptot				species)</span>
	11	<span style="font-size:0.8em;">							
	15 0	<p style="margin:0 0 4px 0">			tout.fullname				
	20	[Synonyms:		1	tout.synsum				]
	23	Habits:	B	1	tout.habitlist				.
	24	Life forms:	B	1	tout.lflist				.
	25	States:	B	1	tout.statelist				.

A sample Text Report template that includes some calculated fields including STATELIST as formatted above. Note that this text report includes some useful <span> HTML tags to control formatting. The field STATELIST has been transferred from a plot file to the taxon extract file (alias TOUT), hence the field name expression is 'tout.statelist'.