## Algorithm for determining the best match from TNRS results

The code is in

<https://github.com/iPlantCollaborativeOpenSource/TNRS/blob/master/taxamatch-webservice-read-only/api/classes/class.tnrs_aggregator.php>

Line numbers refer to commit version XXX.

//Sorting logic if sorting by higer taxa

From 747-759,

if the sort\_scheme == 'highertaxa'

from highest rank (ex. family) to lowest rank (ex. specific epithet)

get the edit\_distance in each rank; if one's edit\_distance is missing, assign edit\_distance = 0

compare the edit\_distance; if they are different, returned the order as higher score with higher priority.

//Get the data prior to applying best match algorithm

From 760-773

get the overall\_score (taxon\_name\_score + auther\_score), name\_score (taxon\_name\_score), taxonomic\_status ("Accepted", "Synonym", etc.), name\_matched (taxon\_name matched), canonical\_author (author\_name\_matched), and source\_order

//Best match algorithm

From 775-803

compare the name\_score; if different, return the order as higher score with higher priority

compare the overall\_score; if different, return the order as higher score with higher priority

compare the taxonomic\_status; if different, return the order as higher score from acceptance\_array with higher priority

compare the name\_matched; if different, return the order as in dictionary order

compare the source\_order; if different, return the order as lower source\_order with higher priority

If still no difference, label them as ambiguous (793-794)

compare the canonical\_author; if different, return the order as in dictionary order

If still no difference, return them as no difference

//sort the results and apply flags

From 690-701

sort the results in both "overall" and "highertaxa", and store the order in each results

From 702-711

According to the sorting results, put the "ambiguous", "highertaxa"/"overall" warning flag in each result .if needed,