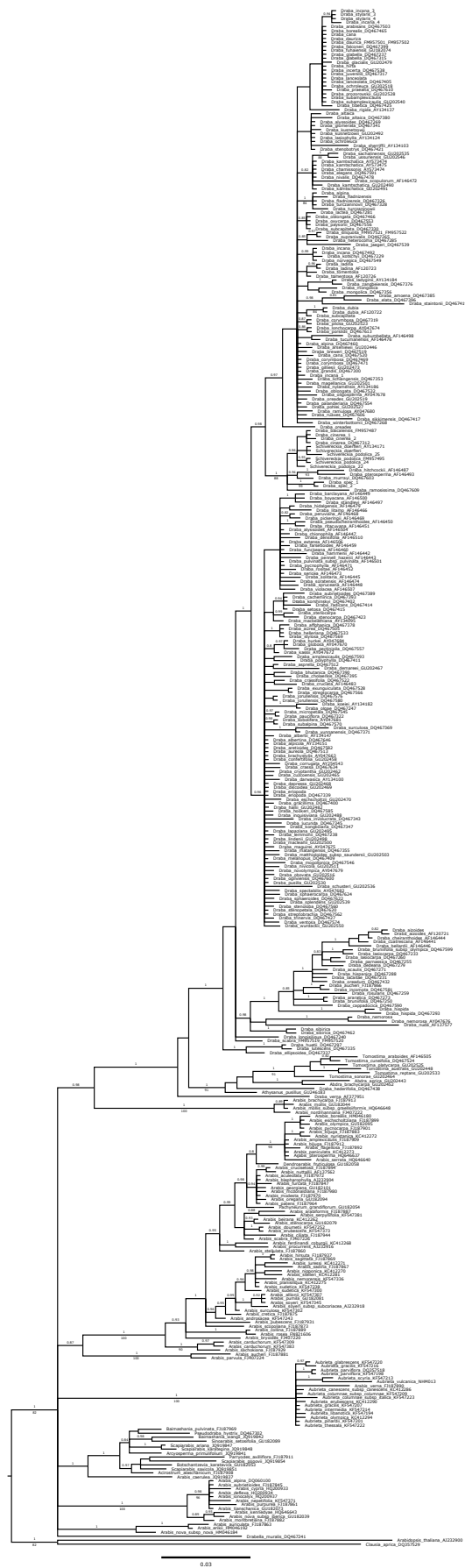
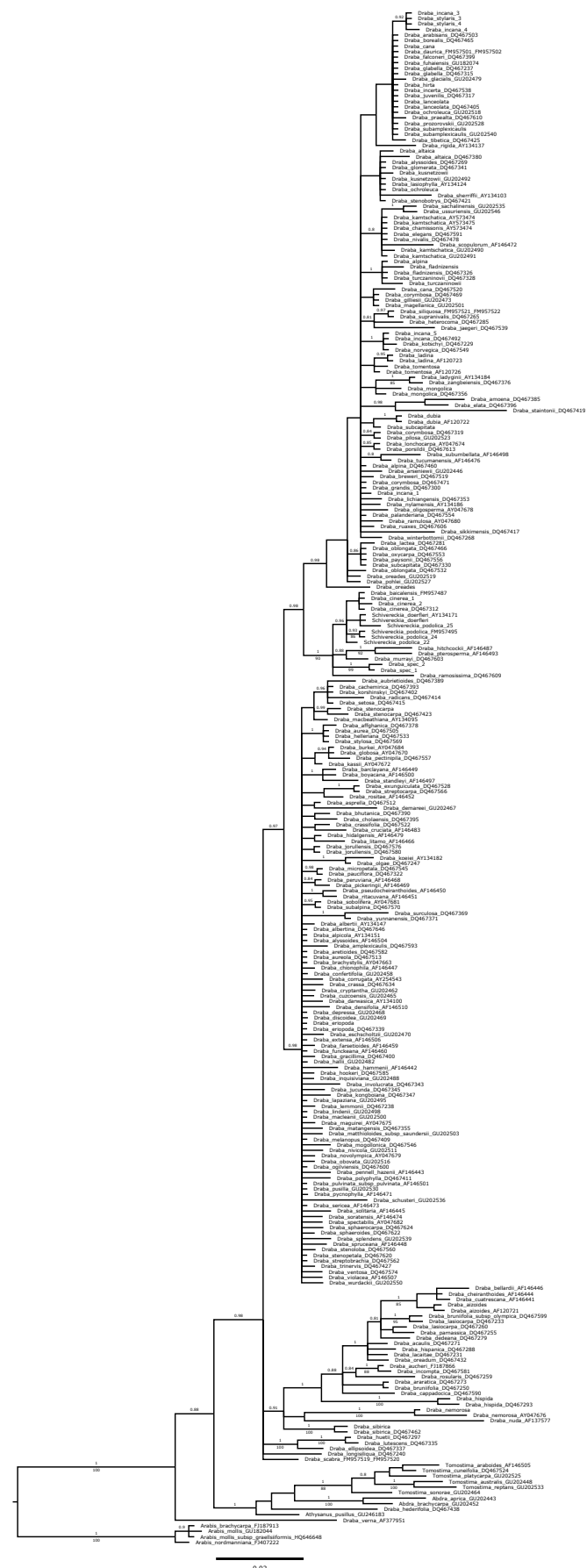


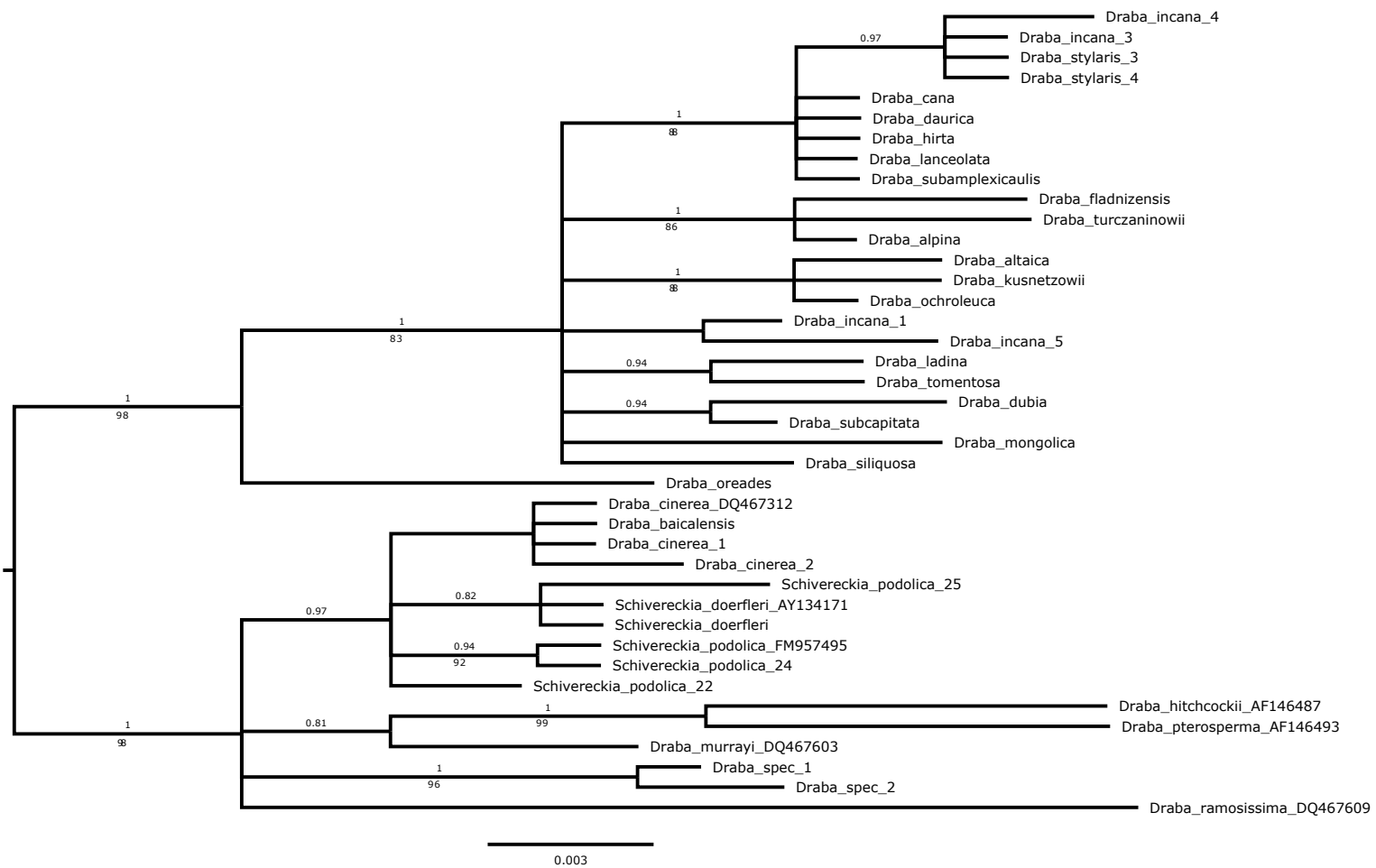
(above: ML bootstrap values <80 are not shown; below: Bayesian posterior probabilities <.90 are not shown).



(above: ML bootstrap values <80 are not shown; below: Bayesian posterior probabilities <.90 are not shown).



Supplement 3: Phylogenetic tree of *Schivereckia* and closely related taxa inferred from ITS, under the GTR+Γ substitution model.
Branch lengths are drawn to scale, with the scale bar indicating the number of nucleotide substitutions per site.
The numbers on the branches are statistical support values
(above: ML bootstrap values, values <80 are not shown; below: Bayesian posterior probabilities, values <.90 are not shown).



Supplement 4: Phylogenetic tree of *Schivereckia* and closely related taxa inferred from trnL-trnF, under the GTR+Γ substitution model.
 Branch lengths are drawn to scale, with the scale bar indicating the number of nucleotide substitutions per site.
 The numbers on the branches are statistical support values
 (above: ML bootstrap values, values <80 are not shown; below: Bayesian posterior probabilities, values <.90 are not shown).



Supplement 5: Phylogenetic statistics of Arabideae, *Draba* s.l. and *Schivereckia* alignments.

Legend: bp, base pairs; PIS parsimony informative positions.

	Arabideae	<i>Draba</i> s.l.	<i>Schivereckia</i>
No. of included accessions	394	285	38
Length of the alignment (bp)	653	637	620
No. of constant characters	298	375	552
No. of variable characters	110	90	40
No. of potential PIS	245	172	28
ML optimisation likelihood	-8817.444	-5346.499	-1424.766

Supplement 6: Ancestral area reconstruction statistics.

Process begin at 12/11/2019 2:45:45 PM

You could simply choose the model with the highest AICc_wt value as the 'Best' model,
and apply this model on your trees data set.

#Results of Model Test#

LnL	numparams	d	e	j	AICc	AICc_wt	
DEC	-57.03	2	0.14	0.13	0	118.4	3.5e-08
DEC+J	-39.35	3	1.0e-12	1.0e-12	0.019	85.37	0.52
DIVALIKE	-46.44	2	0.044	1.0e-12	0	97.2	0.0014
DIVALIKE+J	-39.57	3	1.0e-12	1.0e-12	0.020	85.8	0.42
BAYAREALIKE	-70.91	2	0.040	0.40	0	146.1	3.3e-14
BAYAREALIKE+J	-41.4	3	1.0e-07	1.0e-07	0.022	89.47	0.066

Use the AICc to select the best model

The p-value of the LRT (Likelihood Ratio Test) tells you whether or not you can reject

the null hypothesis that without J and +J confer equal likelihoods on the data.

alt	null	LnLalt	LnLnull	DFalt	DFnull	DF	Dstatistic	pval	test	tail	AIC1	AIC2
		AICwt1	AICwt2	AICweight_ratio_model1	AICweight_ratio_model2							
DEC+J	DEC	-39.35	-57.03	3	2	1	35.36	2.7e-09	chi-squared		one-tailed	
		84.71	118.1	1.00	5.7e-08	1.75e+07	5.7e-08					
DIVALIKE+J	DIVALIKE			-39.57	-46.44	3	2	1	13.74	0.0002	chi-squared	
		one-tailed		85.13	96.87	1.00	0.0028	354.1	0.0028			
BAYAREALIKE+J	BAYAREALIKE			-41.4	-70.91	3	2	1	59.01		1.6e-14	chi-
squared	one-tailed			88.81	145.8	1.00	4.2e-13	2.39e+12	4.2e-13			

Process end at 12/11/2019 2:46:44 PM

Open [Graphic->Tree View] to see the result

NODE41:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9970

NODE54:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9994

NODE67:
EVENT MATRIX:
Dispersal:2
Vicariance:1
Extinction:0
Event Route:
DG->DEFG->DE|FG
PROBABILITY:
0.3327

NODE42:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9974

NODE55:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9997

NODE68:
EVENT MATRIX:
Dispersal:0
Vicariance:1
Extinction:0
Event Route:
BH->H|B
PROBABILITY:
0.9885

NODE43:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9923

NODE56:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9979

NODE69:
EVENT MATRIX:
Dispersal:1
Vicariance:0
Extinction:0
Event Route:
B->B^B->BH^B->B|BH
PROBABILITY:
0.8207

NODE44:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9975
NODE45:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9944

NODE46:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9940

NODE47:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9991

NODE48:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9953

NODE49:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9933

NODE50:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9983

NODE57:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9999
NODE58:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9996

NODE59:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9984

NODE60:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9939

NODE61:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9860

NODE62:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9702

NODE63:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9104

NODE70:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.7674
NODE71:
EVENT MATRIX:
Dispersal:1
Vicariance:1
Extinction:1
Event Route:
BD->B->BE->E|B
PROBABILITY:
0.8529

NODE72:
EVENT MATRIX:
Dispersal:2
Vicariance:0
Extinction:0
Event Route:
BD->BD^D->BDG^D->BD|DG
PROBABILITY:
0.2516

NODE73:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
C->C^C->C|C
PROBABILITY:
0.8841

NODE74:
EVENT MATRIX:
Dispersal:1
Vicariance:1
Extinction:0
Event Route:
BD->BCD->C|BD
PROBABILITY:
0.3439

NODE75:
EVENT MATRIX:
Dispersal:1
Vicariance:1
Extinction:0
Event Route:
BD->ABD->A|BD
PROBABILITY:
0.2629

NODE76:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
A->A^A->A|A
PROBABILITY:
0.9189

NODE51:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9927

NODE64:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
G->G^G->G|G
PROBABILITY:
0.9755

NODE77:
EVENT MATRIX:
Dispersal:0
Vicariance:1
Extinction:0
Event Route:
AB->B|A
PROBABILITY:
0.7450

NODE52:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9870

NODE65:
EVENT MATRIX:
Dispersal:0
Vicariance:1
Extinction:0
Event Route:
FG->F|G
PROBABILITY:
0.7630

NODE78:
EVENT MATRIX:
Dispersal:2
Vicariance:0
Extinction:0
Event Route:
AB->AB^B->ABD^B->AB|BD
PROBABILITY:
0.1534

NODE53:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
B->B^B->B|B
PROBABILITY:
0.9999

NODE66:
EVENT MATRIX:
Dispersal:0
Vicariance:1
Extinction:0
Event Route:
DE->E|D
PROBABILITY:
0.9938

NODE79:
EVENT MATRIX:
Dispersal:1
Vicariance:0
Extinction:0
Event Route:
B->B^B->AB^B->AB|B
PROBABILITY:
0.2012

=====

Dispersal Between Areas:

A->D:0.5
B->A:1.5
B->C:0.5
B->D:0.5
B->E:0.5
B->G:0.5
B->H:1
D->A:0.5
D->C:0.5
D->E:1
D->F:0.5
D->G:0.5
G->E:0.5
G->F:0.5

Speciation Within Areas:

A:1
B:27
C:1
D:1
G:1

Dispersal Table:

	from	to	within
A	0.50	2.00	1
B	4.50	0.00	27
C	0.00	1.00	1
D	3.00	1.00	1
E	0.00	2.00	0
F	0.00	1.00	0
G	1.00	1.00	1
H	0.00	1.00	0

Global Cost:

Global Dispersal: 11
Global Vicariance: 8
Global Extinction: 1

Supplement 7. Mantel-Test results for geographical versus RAPD Distance of *Schivereckia*.

