

Supplementary figure S1: Voucher list of taxa. All names are given under the rules of the ICN, the author standard forms follow Brummitt & Powell (1992). Legend: Nr, number; n.inf., no information; AM, Armenia; AZ, Azerbaijan; AT, Austria; CH, Switzerland; DE, Germany; GR, Greece; HU, Hungary; IR, Iran; KZ, Kazakhstan; PL, Poland; LB, Lebanon; LT, Lithuania; MN, Mongolia; RO, Romania; RU, Russia; SE, Sweden; TM, Turkmenistan; TR, Turkey; UA, Ukraine; US, United States; * approximate coordinates.

Species name	Strain Nr.	Country	Coordinates	GenBankNr(s)
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 27567	HU	47.04° N, 18.09° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 27571	HU	46.87° N, 19.42° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	HBG_M0023	CH	46.13° N, 7.09° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 27564	HU	47.68° N, 17.89° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 27109	RU	50.68° N, 37.81° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	92-12-0013-10	HU	47.03° N, 18.13° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	98-0015-10-00	RO	47.79° N, 27.20° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	96-0175-10-02	RU	52.87° N, 48.61° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 27520	UA	46.42° N, 33.75° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	MW0371682	RU	49.26° N, 45.65° E *	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 24059	RO	45.29° N, 27.98° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 24256	RO	46.54° N, 24.47° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 27045	RU	51.60° N, 36.85° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 24183	RO	45.47° N, 27.83° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 24069	RO	45.05° N, 27.12° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	99-0237-10-00	RU	43.83° N, 41.83° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 24105	RO	45.03° N, 29.16° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	HBG_M0022	CH	46.14° N, 7.13° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 27568	HU	47.49° N, 17.89° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 27569	HU	46.67° N, 19.49° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 27032	RU	51.60° N, 36.87° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 27070	RU	49.93° N, 40.77° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 24286	RO	46.96° N, 23.55° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 24176	RO	45.56° N, 28.03° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	HBG_M0018	AT	47.24° N, 11.44° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 27032	RU	50.22° N, 52.03° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 24527	Crimea	44.76° N, 34.15° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 27572	AT	47.52° N, 16.10° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	19-0033-10-01	HU	47.66° N, 17.60° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 13798	RU	51.60° N, 38.97° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 13852	RU	50.52° N, 40.00° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	19-0028-50-01	AT	48.20° N, 16.50° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 23325	DE	49.96° N, 9.76° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	96-0122-10-00	PL	50.69° N, 21.80° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	96-0166-00-02	RU	55.30° N, 49.26° E	###

<i>Camelina microcarpa</i> Andrz. ex DC.	19-0027-50-01	AT	48.15° N, 17.00° E	###
<i>Camelina rumelica</i> Velen.	OSBU 27522	UA	46.24° N, 33.83° E	###
<i>Camelina rumelica</i> Velen.	HBG_M0017	LB	34.20° N, 36.21° E	###
<i>Camelina rumelica</i> Velen.	15-0017-10-00	RO	45.30° N, 29.55° E	###
<i>Camelina rumelica</i> Velen.	MW0834891	TM	37.79° N, 58.35° E	###
<i>Camelina rumelica</i> Velen.	MW0611352	Crimea	44.92° N, 35.22° E	###
<i>Camelina rumelica</i> Velen.	05-0263-31-00	IR	36.24° N, 50.01° E	###
<i>Camelina rumelica</i> Velen.	15-0065-10-00	Crimea	45.45° N, 36.11° E	###
<i>Camelina rumelica</i> Velen.	OSBU 24526	RO	46.54° N, 24.48° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	NSK_0003	RU	52.21° N, 120.71° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	NSK_0006	RU	53.70° N, 108.86° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	NSK_0009	RU	53.47° N, 103.76° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	NSK_0008	RU	56.01° N, 97.77° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	NSK_0012	RU	54.24° N, 79.01° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	NSK_0007	RU	53.15° N, 103.77° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	NSK_0014	RU	54.66° N, 72.09° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	12-0058-10-03	RU	53.55° N, 91.23° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	NSK_0010	RU	51.28° N, 94.45° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	NSK_0013	RU	56.49° N, 85.14° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 24832	KZ	49.24° N, 73.03° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 25724	KZ	50.86° N, 53.17° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 25652	RU	51.39° N, 57.59° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 25861	KZ	53.18° N, 63.78° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	NSK_0018	RU	52.90° N, 104.84° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	15-0032-10-00	RU	50.31° N, 87.58° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	16-0002-10-00	KZ	49.99° N, 83.07° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	12-0076-10-00	DE	50.01° N, 8.21° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	NSK_0004	RU	51.11° N, 106.27° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 24728	KZ	50.75° N, 80.82° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 25843	KZ	51.69° N, 61.57° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	NSK_0019	RU	50.81° N, 81.53° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	OSBU 25926	KZ	51.57° N, 73.16° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	NSK_0016	KZ	54.28° N, 63.98° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	17-0108-10-02	MN	48.44° N, 106.40° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	17-0108-10-01	MN	48.44° N, 106.40° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	17-0108-10-03	MN	48.44° N, 106.40° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	05-0091-10-00	RU	51.05° N, 83.62° E	###
<i>Camelina microcarpa</i> Andrz. ex DC.	02-0122-10-00	RU	50.72° N, 85.30° E	###
<i>Camelina sativa</i> (L.) Crantz	MW0371670	RU	53.96° N, 44.74° E	###
<i>Camelina sativa</i> (L.) Crantz	MW0371696	UA	48.15° N, 39.83° E	###

<i>Camelina sativa</i> (L.) Crantz	MW0371703	RU	47.23° N, 38.91° E	###
<i>Camelina sativa</i> (L.) Crantz	MW0673684-1	AZ	41.42° N, 48.44° E *	###
<i>Camelina sativa</i> (L.) Crantz	MW0371638	RU	52.41° N, 39.10° E	###
<i>Camelina sativa</i> (L.) Crantz	MW0834900	KZ	43.18° N, 77.05° E	###
<i>Camelina sativa</i> (L.) Crantz	MW0834898	KZ	43.16° N, 70.38° E	###
<i>Camelina sativa</i> (L.) Crantz	MW0673682	RU	49.26° N, 45.65° E *	###
<i>Camelina sativa</i> (L.) Crantz	MW0371561	LT	55.33° N, 23.88° E *	###
<i>Camelina sativa</i> (L.) Crantz	OSBU 27562	RU	42.95° N, 47.36° E	###
<i>Camelina sativa</i> (L.) Crantz	MW0371664	RU	54.70° N, 44.18° E	###
<i>Camelina sativa</i> (L.) Crantz	OSBU 24550	RU	47.41° N, 80.51° E	###
<i>Camelina sativa</i> (L.) Crantz	OSBU 24551	KZ	44.20° N, 78.51° E	###
<i>Camelina sativa</i> (L.) Crantz	MW0371693	RU	58.01° N, 57.52° E	###
<i>Camelina sativa</i> (L.) Crantz	OSBU 24549	KZ	44.34° N, 76.90° E	###
<i>Camelina sativa</i> (L.) Crantz	17-0048-50-00	KZ	48.81° N, 83.50° E	###
<i>Camelina sativa</i> (L.) Crantz	OSBU 25540	RU	54.23° N, 55.88° E	###
<i>Camelina sativa</i> (L.) Crantz	OSBU 25694	KZ	50.14° N, 54.73° E	###
<i>Camelina sativa</i> (L.) Crantz	OSBU 24548	KZ	46.03° N, 80.68° E	###
<i>Camelina sativa</i> (L.) Crantz	NSK_0001	RU	53.35° N, 103.98° E	###
<i>Camelina sativa</i> (L.) Crantz	NSK_0002	RU	55.29° N, 89.24° E	###
<i>Camelina sativa</i> (L.) Crantz	OSBU 25532	RU	51.78° N, 55.56° E	###
<i>Camelina alyssum</i> (Mill.) Thell.	MW0371400	RU	55.94° N, 37.27° E	###
<i>Camelina alyssum</i> (Mill.) Thell.	MW3071401	RU	56.72° N, 38.78° E	###
<i>Camelina hispida</i> Boiss.	91-50-0011-10	IR	36.24° N, 50.01° E	###
<i>Camelina hispida</i> Boiss.	HBG_N0020	IR	32.46° N, 54.61° E	###
<i>Camelina anomala</i> Boiss. & Hausskn. ex Boiss.	JE-Haus-Meschkok	TR	36.86° N, 40.07° E	###
<i>Camelina anomala</i> Boiss. & Hausskn. ex Boiss.	JE-Sine-Biredijk	TR	37.01° N, 37.89° E	###
<i>Camelina laxa</i> C.A.Mey.	MW0673660	AM	39.84° N, 44.83° E	###
<i>Camelina laxa</i> C.A.Mey.	MW0673661	AZ	39.21° N, 45.41° E	###
<i>Camelina laxa</i> C.A.Mey.	MW0738605	IR	36.73° N, 50.86° E *	###
<i>Neslia paniculata</i> (L.) Desv.	OSBU 24257	RO	46.54° N, 24.47° E	###
<i>Capsella bursa-pastoris</i> (L.) Medik.	OSBU CBP_2050/2	RU	54.50° N, 83.06° E	###
<i>Capsella orientalis</i> Klokov	OSBU 24563	KZ	45.66° N, 80.27° E	###
<i>Capsella rubella</i> Reut.	OSBU 26675	GR	36.23° N, 28.14° E	###
<i>Capsella grandiflora</i> Boiss.	OSBU CGR_1840/4	GR	39.47° N, 19.88° E	###
<i>Catolobus pendulus</i> (L.) Al-Shehbaz	OSBU 18641	RU	53.27° N, 83.67° E	###
<i>Chrysochamela velutina</i> Boiss.	OSBU 12510	-	-	###
<i>Pseudoarabidopsis toxophylla</i> (M.Bieb.) Al-Shehbaz, O'Kane & R.A.Price	OSBU 24600	KZ	47.56° N, 80.62° E	###
<i>Arabidopsis thaliana</i> (L.) Heynh.	OSBU 24546	KZ	48.67° N, 82.52° E	###

<i>Arabidopsis lyrata</i> (L.) O'Kane & Al-Shehbaz	O'Kane 3670	US	-	AF177420
<i>Arabidopsis neglecta</i> (Schult.) O'Kane & Al-Shehbaz	O'Kane & Kuciel 3663a	PL	-	AF177418
<i>Arabidopsis petraea</i> (L.) V.I.Dorof.	OSBU 17168	AT	48.42° N, 15.82° E	###
<i>Arabidopsis suecica</i> (Fr.) Norrl. ex O.E.Schulz	OSBU 7819	SE	-	###
<i>Arabidopsis arenosa</i> (L.) Lawalrée	OSBU 24222	RO	45.78° N, 25.67° E	###
<i>Arabidopsis halleri</i> (L.) O'Kane & Al-Shehbaz	OSBU 10170	AT	-	###

Figure S2: Comparison between maximum likelihood (ML) tree of 122 operational taxonomic units (OTUs) under the GTR+ Γ substitution model and Bayesian (MB) tree. 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. Values <75 for ML and <.90 for MB tree are not shown. Colour coding of the ribotypes corresponds to the colour coding in Figures 2 and 3.

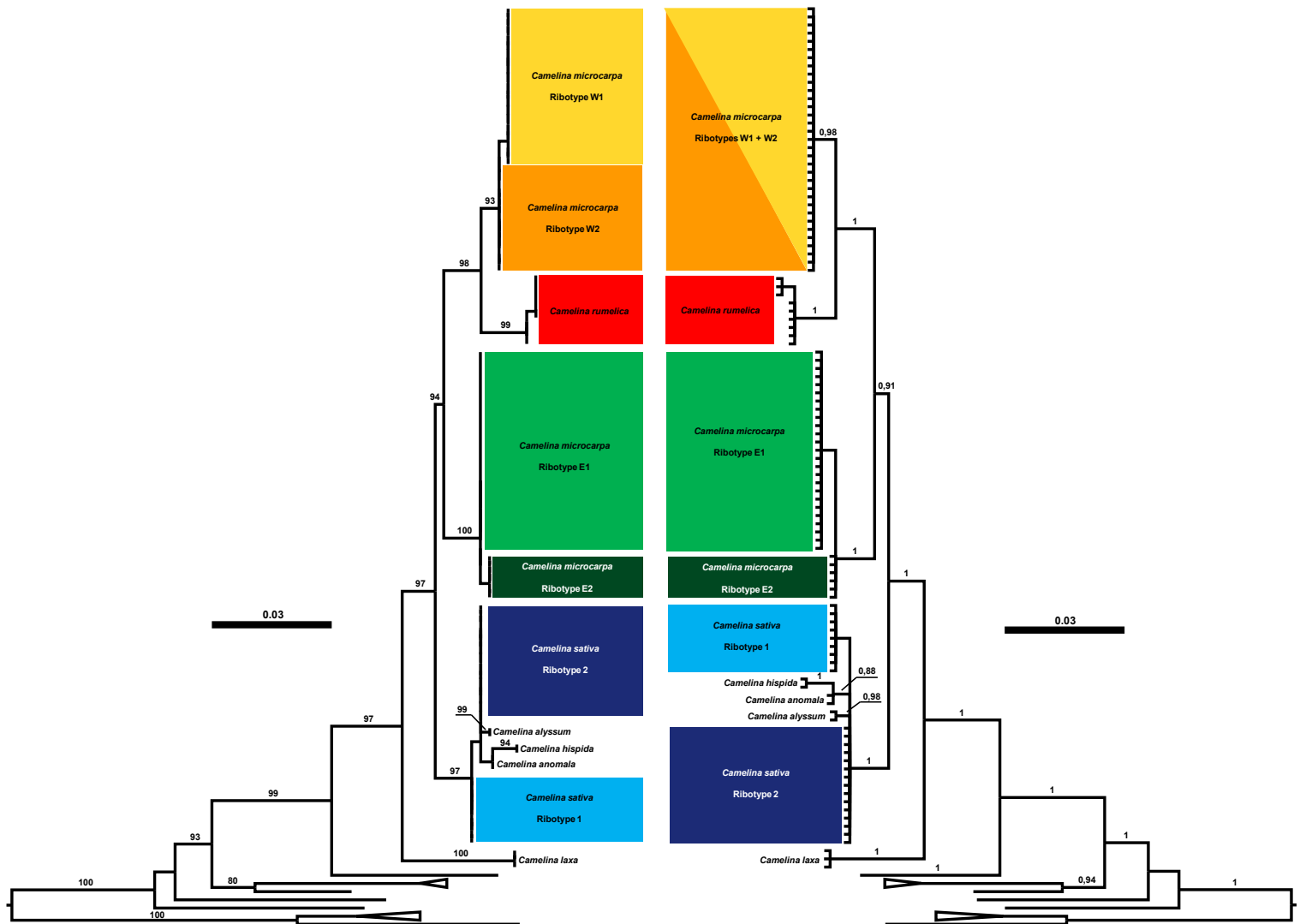


Figure S3: Phylogenetic tree of *Camelina* and closely related taxa

inferred from internal transcribed spacer locus, 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 <75 are not shown; below: Bayesian posterior probabilities, values <.90 are not shown).

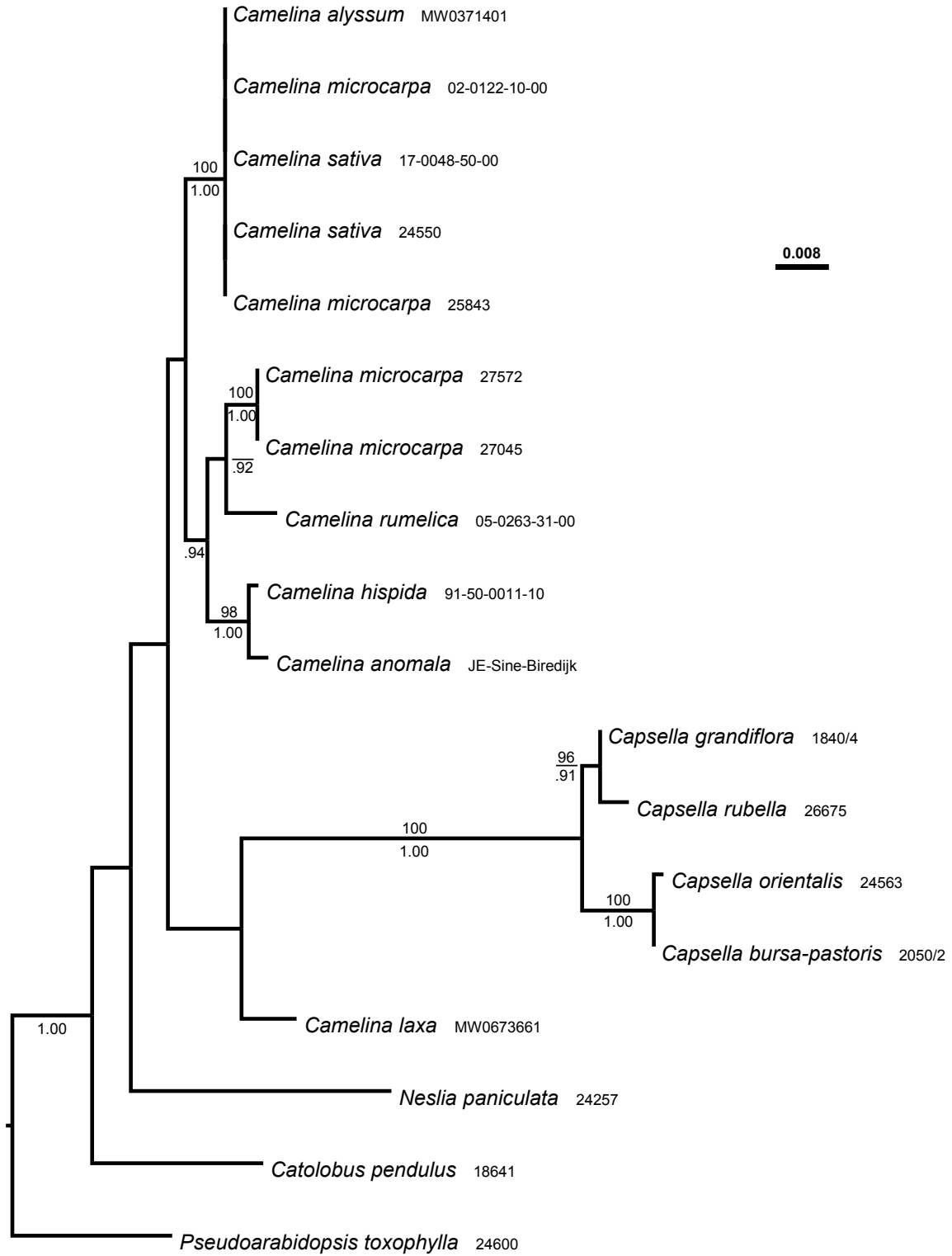


Figure S4: Dated phylogeny of a reduced taxon sample of Camelinaeae.

Median rate is given in units of substitutions per million years (including 95% confidence intervals).

Absolute ages are in millions of years, and epochs are indicated in the same colours as in (Gradstein et al., 2012).

The numbers on the branches are statistical support values

(above: ML bootstrap values, values <75 are not shown; below: Bayesian posterior probabilities, values <.90 are not shown).

Significance levels: highly supported (***): BI ≥ 0.98, BS ≥ 95%;

well supported (**): BI ≥ 0.90, BS ≥ 85% to < 95%; supported (*): BI ≥ 0.90, BS ≥ 75% to < 85%.

Orange stars indicate the calibration points..

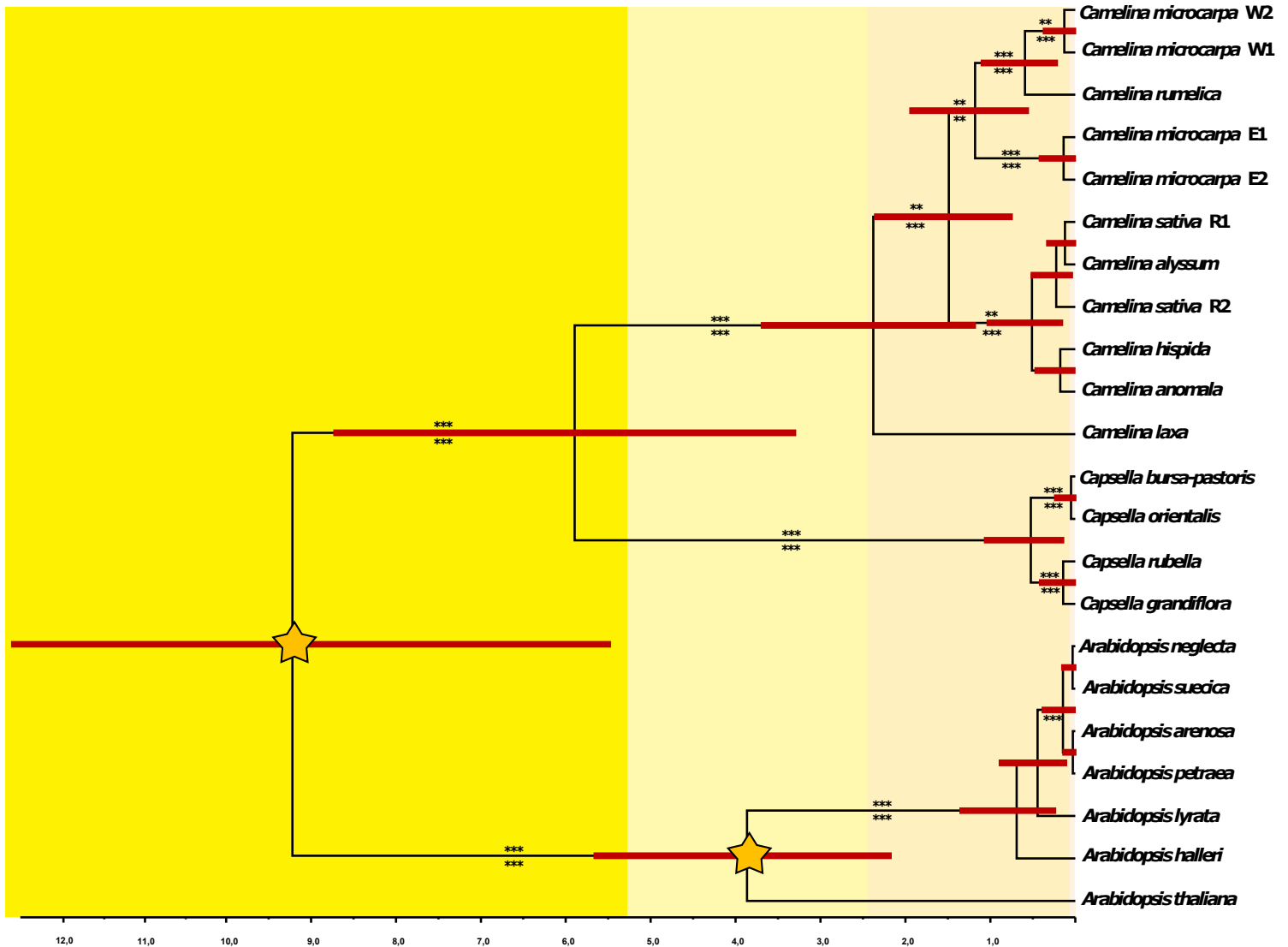


Figure S5: Likelihood for the node composition and explanatory events of the biogeographic reconstruction for *Camelina* using the Bayesian binary MCMC (BBM) method. The areas are coded as follows: (A) Europe, including Pontic steppe, (B) western and central regional sub centre of the Irano-Turanian region (Léonard, 1988), (C) Kazakh steppe, uplands and East Kazakhstan and (D) Mongolian-Chinese steppe.

Loading Trees Dataset ...

Load import.trees Successfully!

Using Tree: (4:2.2941136652457894,

(((((3:0.16468147600373584,2:0.16468147600373717)0.7620:0.17967761140466054,

(1:0.15282241560949972,10:0.15282241560949128)0.5720:0.19153667179889577)0.5840:0.18454070777787

557,11:0.5288997951862697)1.0000:1.0159949785173934,

((6:0.16411373873975865,5:0.16411373873975865)1.0000:1.1028657486228006,

((8:0.14882846166459496,7:0.14882846166459496)1.0000:0.5081550130561898,9:0.6569834747208039)1.00

00:0.6099960126417856)0.8530:0.2779152863411145)1.0000:0.7492188915420996)1.0000:6.78556539338722

;

Load Condensed Tree Successfully!

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To use BBM, please cite:

Ali SS, Yu Y, Pfosser M, Wetschnig W. 2012. Inferences of biogeographical histories within subfamily Hyacinthoideae using S-DIVA and Bayesian binary MCMC analysis implemented in RASP (Reconstruct Ancestral State in Phylogenies). *Ann Bot* 109:95-107.

Ronquist F, Huelsenbeck JP (2003) MrBayes3: Bayesian phylogenetic inference undermixed models. *Bioinformatics* 19:1572?C1574.

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Bayesian MCMC Analysis

Using Model: JC

Using command: mcmc startingtree=user Ordertaxa=Yes Samplefreq=1000 ngen=2000000 nchains=10

Temp=0.1

Result of run 1:

node 12 (terminals 3-2): B 96.41% AB 2.15% BC 0.90%

node 13 (terminals 1-10): A 72.37% AC 19.76% C 4.61%

node 14 (terminals 3-10): C 35.51% B 22.31% A 15.63% BC 8.95% AC 6.27%

node 15 (terminals 3-11): C 49.80% CD 13.02% D 11.72% BC 7.84% B 7.06%

node 16 (terminals 6-5): CD 87.00% C 9.90% BCD 1.32%

node 17 (terminals 8-7): A 99.21% AB 0.55% AC 0.13%

node 18 (terminals 8-9): A 72.45% AB 17.06% B 3.99%

node 19 (terminals 6-9): C 34.23% D 17.49% CD 13.41% A 7.45% B 5.76% AC 5.71%

node 20 (terminals 3-9): C 39.22% D 17.73% B 12.86% CD 9.43% BC 6.84%

node 21 (terminals 4-9): B 74.74% C 11.18% D 5.14%

Result of run 2:

node 12 (terminals 3-2): B 96.47% AB 2.02% BC 0.95%

node 13 (terminals 1-10): A 72.99% AC 19.10% C 4.59%

node 14 (terminals 3-10): C 34.09% B 23.84% A 15.86% BC 9.14% AC 6.08%

node 15 (terminals 3-11): C 49.82% CD 11.16% D 11.01% BC 8.56% B 8.45%

node 16 (terminals 6-5): CD 86.39% C 10.60% BCD 1.26%

node 17 (terminals 8-7): A 99.30% AB 0.44% AC 0.13%

node 18 (terminals 8-9): A 72.80% AB 15.79% B 4.12%

node 19 (terminals 6-9): C 33.77% D 17.25% CD 12.07% A 8.47% B 6.40% AC 5.92%

node 20 (terminals 3-9): C 38.47% D 17.04% B 14.51% CD 8.36% BC 7.12%
node 21 (terminals 4-9): B 77.40% C 9.79% D 4.61%

distance of run 1 and run 2: 0.0033

Result of combined:

node 12 (terminals 3-2): B 96.44% AB 2.08% BC 0.92%
node 13 (terminals 1-10): A 72.68% AC 19.43% C 4.60%
node 14 (terminals 3-10): C 34.80% B 23.07% A 15.75% BC 9.05% AC 6.18%
node 15 (terminals 3-11): C 49.82% CD 12.08% D 11.39% BC 8.20% B 7.73%
node 16 (terminals 6-5): CD 86.70% C 10.25% BCD 1.29%
node 17 (terminals 8-7): A 99.26% AB 0.49% AC 0.13%
node 18 (terminals 8-9): A 72.62% AB 16.43% B 4.06%
node 19 (terminals 6-9): C 34.01% D 17.38% CD 12.74% A 7.95% B 6.08% AC 5.82%
node 20 (terminals 3-9): C 38.86% D 17.40% B 13.66% CD 8.89% BC 6.98%
node 21 (terminals 4-9): B 76.09% C 10.47% D 4.87%

NODE12:

EVENT MATRIX:

Dispersal:0

Vicariance:0

Extinction:0

Event Route:

B->B^B->B|B

PROBABILITY:

0.9644

NODE13:

EVENT MATRIX:

Dispersal:1

Vicariance:0

Extinction:0

Event Route:

A->A^A->AC^A->A|AC

PROBABILITY:

0.7268

NODE14:

EVENT MATRIX:

Dispersal:3

Vicariance:1

Extinction:1

Event Route:

C->->AB->A|B

PROBABILITY:

0.2439

NODE15:

EVENT MATRIX:

Dispersal:1

Vicariance:0

Extinction:0

Event Route:

C->C^C->CD^C->CD|C

PROBABILITY:

0.1734

NODE16:

EVENT MATRIX:

Dispersal:2

Vicariance:0

Extinction:0

Event Route:

CD->CD^C^D->CD|CD

PROBABILITY:

0.8670

NODE17:

EVENT MATRIX:

Dispersal:0

Vicariance:0

Extinction:0

Event Route:

A->A^A->A|A

PROBABILITY:

0.9926

NODE18:

EVENT MATRIX:

Dispersal:1

Vicariance:0

Extinction:0

Event Route:

A->A^A->AB^A->AB|A

PROBABILITY:

0.7208

NODE19:

EVENT MATRIX:

Dispersal:3

Vicariance:1

Extinction:0

Event Route:

C->ACD->A|CD

PROBABILITY:

0.2141

NODE20:

EVENT MATRIX:

Dispersal:0

Vicariance:0

Extinction:0

Event Route:

C->C^C->C|C

PROBABILITY:

0.0658

NODE21:

EVENT MATRIX:

Dispersal:2

Vicariance:1

Extinction:0

Event Route:

B->BC->B|C

PROBABILITY:

0.2957

Dispersal Between Areas:

A->B:1

A->C:1

B->C:1

C->A:2

C->B:1

C->D:2

Speciation Within Areas:

A:3

B:1

C:3

D:1

Dispersal Table:

	from	to	within
A	2.00	2.00	3
B	1.00	2.00	1
C	5.00	2.00	3
D	0.00	2.00	1

Global Cost:

Global Dispersal: 13

Global Vicariance: 3

Global Extinction: 1

To use BBM, please cite:

Ali SS, Yu Y, Pfosser M, Wetschnig W. 2012. Inferences of biogeographical histories within subfamily Hyacinthoideae using S-DIVA and Bayesian binary MCMC analysis implemented in RASP (Reconstruct Ancestral State in Phylogenies). *Ann Bot* 109:95-107.

Ronquist F, Huelsenbeck JP (2003) MrBayes3: Bayesian phylogenetic inference undermixed models. *Bioinformatics* 19:1572-1574.

Bayesian MCMC Analysis

Using Model: JC+G

Using command: mcmc startingtree=user Ordertaxa=Yes Samplefreq=1000 ngen=2000000 nchains=10 Temp=0.1

Result of run 1:

node 12 (terminals 3-2): B 97.08% AB 1.67% BC 0.96%

node 13 (terminals 1-10): A 60.80% AC 35.03% C 2.08%

node 14 (terminals 3-10): C 28.51% B 23.07% A 16.88% BC 10.06% AC 7.36% AB 5.96%

node 15 (terminals 3-11): C 38.07% CD 20.60% D 18.32% BC 6.76% B 6.01%

node 16 (terminals 6-5): CD 96.95% C 1.73% D 1.26%

node 17 (terminals 8-7): A 98.90% AB 0.82% AC 0.15%

node 18 (terminals 8-9): A 70.04% AB 22.88% AC 2.67%

node 19 (terminals 6-9): C 27.45% D 21.72% CD 16.35% A 8.68% AC 6.53% B 5.46% AD 5.17%

node 20 (terminals 3-9): C 34.13% D 21.89% CD 12.57% B 11.66% BC 6.69%

node 21 (terminals 4-9): B 74.96% C 9.45% D 6.40%

Result of run 2:

node 12 (terminals 3-2): B 97.44% AB 1.51% BC 0.83%

node 13 (terminals 1-10): A 61.71% AC 34.11% C 2.11%

node 14 (terminals 3-10): C 26.96% B 23.44% A 18.27% BC 9.67% AC 7.53% AB 6.55%
node 15 (terminals 3-11): C 37.92% CD 19.77% D 18.15% BC 6.95% B 6.37%
node 16 (terminals 6-5): CD 96.90% C 1.76% D 1.28%
node 17 (terminals 8-7): A 99.06% AB 0.69% AC 0.13%
node 19 (terminals 6-9): C 27.29% D 21.60% CD 16.23% A 8.95% AC 6.72% B 5.36% AD 5.32%
node 20 (terminals 3-9): C 33.62% D 21.34% B 12.69% CD 11.63% BC 6.92%
node 21 (terminals 4-9): B 78.45% C 7.86% D 5.27%

distance of run 1 and run 2: 0.0022

Result of combined:

node 12 (terminals 3-2): B 97.26% AB 1.59% BC 0.90%
node 13 (terminals 1-10): A 61.26% AC 34.57% C 2.09%
node 14 (terminals 3-10): C 27.73% B 23.26% A 17.57% BC 9.86% AC 7.45% AB 6.25%
node 15 (terminals 3-11): C 38.00% CD 20.18% D 18.24% BC 6.85% B 6.19%
node 16 (terminals 6-5): CD 96.92% C 1.75% D 1.27%
node 17 (terminals 8-7): A 98.98% AB 0.75% AC 0.14%
node 18 (terminals 8-9): A 70.44% AB 22.31% AC 2.78%
node 19 (terminals 6-9): C 27.37% D 21.66% CD 16.29% A 8.81% AC 6.63% B 5.41% AD 5.24%
node 20 (terminals 3-9): C 33.88% D 21.62% B 12.17% CD 12.10% BC 6.81%
node 21 (terminals 4-9): B 76.75% C 8.63% D 5.81%

NODE12:

EVENT MATRIX:

Dispersal:0

Vicariance:0

Extinction:0

Event Route:

B->B^B->B|B

PROBABILITY:

0.9726

NODE13:

EVENT MATRIX:

Dispersal:1

Vicariance:0

Extinction:0

Event Route:

A->A^A->AC^A->A|AC

PROBABILITY:

0.6126

NODE14:

EVENT MATRIX:

Dispersal:3

Vicariance:1

Extinction:1

Event Route:

C->->AB->A|B

PROBABILITY:

0.1652

NODE15:

EVENT MATRIX:

Dispersal:1

Vicariance:0

Extinction:0

Event Route:

C->C^C->CD^C->CD|C

PROBABILITY:

0.1054

NODE16:

EVENT MATRIX:

Dispersal:2

Vicariance:0

Extinction:0

Event Route:

CD->CD^C^D->CD|CD

PROBABILITY:

0.9692

NODE17:

EVENT MATRIX:

Dispersal:0

Vicariance:0

Extinction:0

Event Route:

A->A^A->A|A

PROBABILITY:

0.9898

NODE18:

EVENT MATRIX:

Dispersal:1

Vicariance:0

Extinction:0

Event Route:

A->A^A->AB^A->AB|A

PROBABILITY:

0.6972

NODE19:
EVENT MATRIX:
Dispersal:3
Vicariance:1
Extinction:0
Event Route:
C->ACD->A|CD
PROBABILITY:
0.1869

NODE20:
EVENT MATRIX:
Dispersal:0
Vicariance:0
Extinction:0
Event Route:
C->C^C->C|C
PROBABILITY:
0.0352

NODE21:
EVENT MATRIX:
Dispersal:2
Vicariance:1
Extinction:0
Event Route:
B->BC->B|C
PROBABILITY:
0.2600

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Dispersal Between Areas:

A->B:1
A->C:1
B->C:1
C->A:2
C->B:1
C->D:2

Speciation Within Areas:

A:3
B:1
C:3
D:1

Dispersal Table:

	from	to	within
A	2.00	2.00	3
B	1.00	2.00	1
C	5.00	2.00	3
D	0.00	2.00	1

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Global Cost:

Global Dispersal: 13
Global Vicariance: 3
Global Extinction: 1