

SupplementaryTable S1 Main assembly parameters and quality metrics

	<i>culinaris</i>	<i>odemensis1</i>	<i>orientalis</i>	<i>ervoides</i>	<i>tomentosus</i>	<i>lamottei</i>	<i>nigricans</i>	<i>odemensis2</i>
total reads	134197218	114242395	56059412	50520358	52594645	59221485	63248353	71337421
total assembled bp	160894892	153107012	118638603	121780270	108379929	121837947	124513373	121311780
coverage (x)	84.2	75.3	47.7	41.9	49.0	49.1	51.3	59.4
proper pairs (%)	97.39	97.64	96.6	96.28	97.64	97.46	96.81	98.1
alignmet rate (%)	99.53	99.56	99.28	99.13	99.41	99.42	99.3	99.47
transcripts	115224	109990	88646	100273	84196	92175	91441	94639
genes	58375	56780	47127	52022	47022	49181	46742	51857
N50 transcript	2206	2199	2059	1906	2013	2042	2055	2020
Average transcript	1396	1392	1338	1214	1287	1322	1362	1282
Complete Busco (%)	91.4	90.8	89.8	89.2	87.1	88.2	90.7	89.2
Annotated transcripts (%)	60.7	60.9	63.8	60.6	63.4	63.3	65.5	61.7
Uniprot proteins represented (>80%)	22243	21933	20232	19856	19313	20298	20865	20502
CDC Redberry proteins represented (>80%)	16052	15194	14915	14733	14394	14567	14804	14838

BUSCO Assessment Results

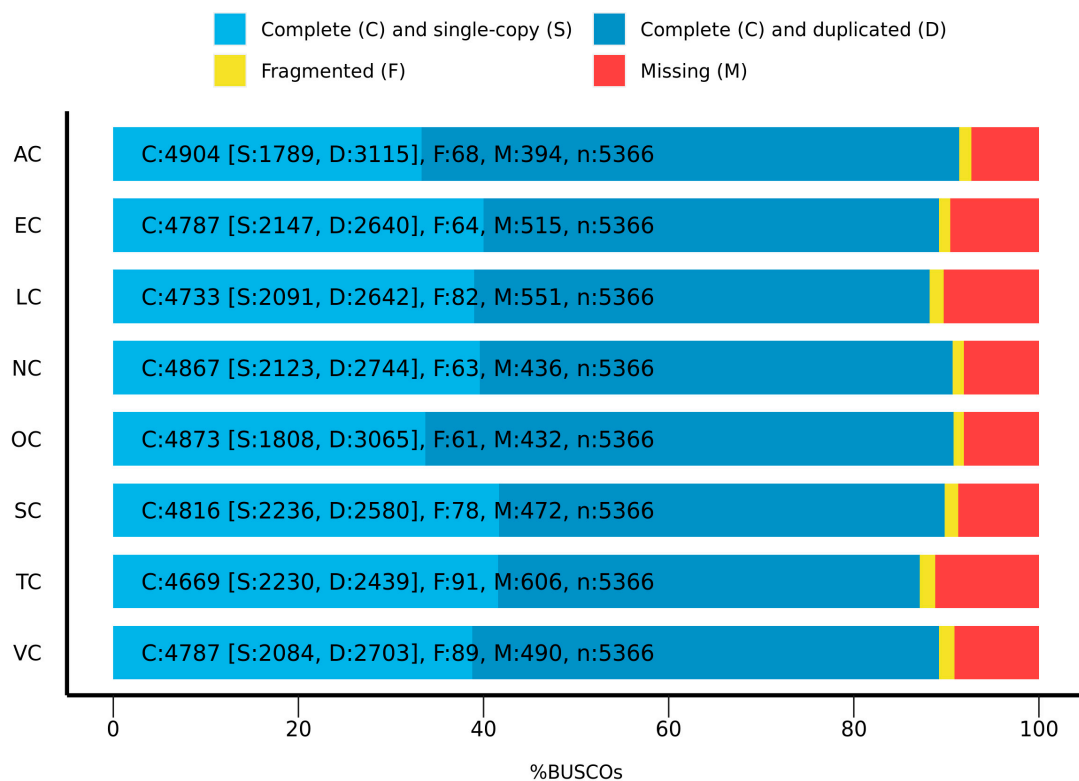


Figure S1. BUSCO summary results of the eight assembled transcriptomes. Alp (*Lens culinaris ssp culinaris*, cv *Alpo*), Ori (*L. orientalis*), Tom (*L. tomentosus*), Erv (*L. ervoides*), Lam (*L. lamotei*), Nig (*L. nigricans*), and two *L. odemensis* (Ode1 and Ode2).

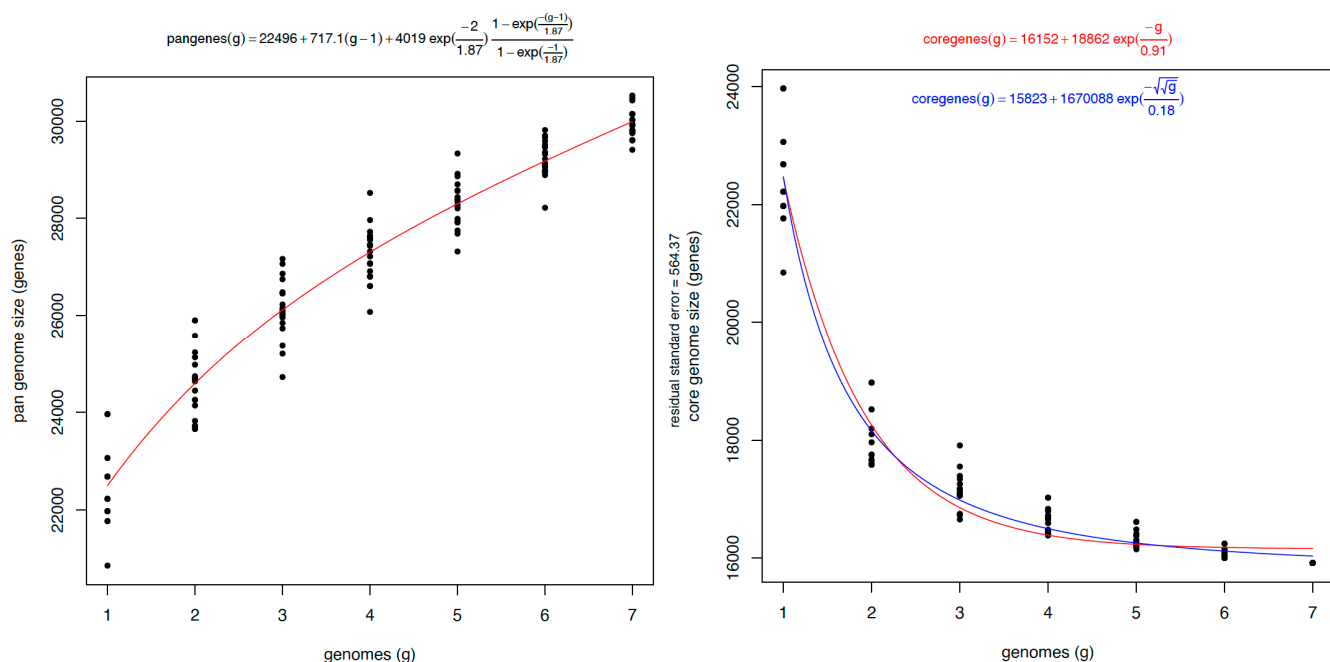


Figure S2. Pan-transcriptome simulations modelling the growth of the lentil pan-transcriptome by adding expressed CDS from 7 accessions. DNA-based non-redundant pan-transcriptome size estimates (A) and core transcriptome size (B) based on random samples of 7 transcriptome sets. Simulations was done with all non-redundant clusters. Plots summarize the results of 20 permutations in which input transcriptomes were randomly sorted and added to the pool.

Supplementary Table S2

Percentage of conserved sequence clusters shared by pairs of species.

genomes	<i>culinaris</i>	<i>lamotei</i>	<i>nigricans</i>	<i>odemensis</i>	<i>orientalis</i>	<i>tomentosus</i>	<i>ervoides</i>
<i>culinaris</i>	100	10.88	10.70	10.42	10.91	11.19	10.50
<i>lamotei</i>	10.88	100	11.43	11.11	11.66	11.98	11.19
<i>nigricans</i>	10.70	11.43	100	10.93	11.46	11.77	11.01
<i>odemensis</i>	10.42	11.11	10.93	100	11.14	11.43	10.71
<i>orientalis</i>	10.91	11.66	11.46	11.14	100	12.02	11.22
<i>tomentosus</i>	11.19	11.98	11.77	11.43	12.02	100	11.52
<i>ervoides</i>	10.50	11.19	11.01	10.71	11.22	11.52	100