

Supplementary information

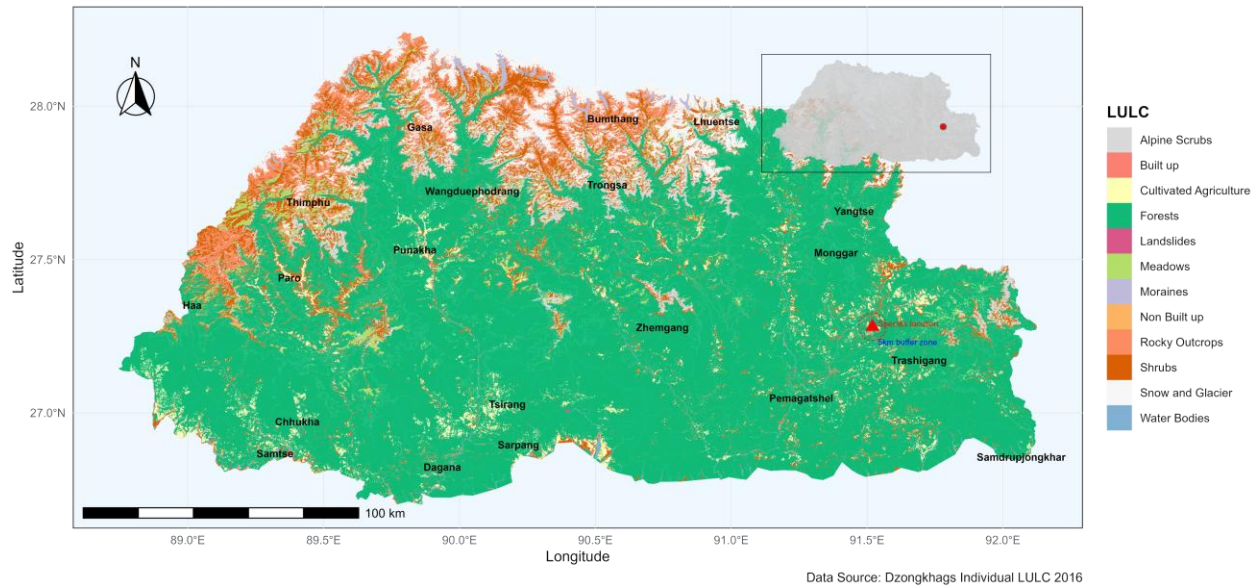


Fig. S1 Land use/land cover (LULC) around the focal species location in Bhutan, showing twelve LULC classes (color-coded), species occurrence (red triangle) and 5 km (dashed) buffer zones, Dzongkhag labels, and an inset map for regional context

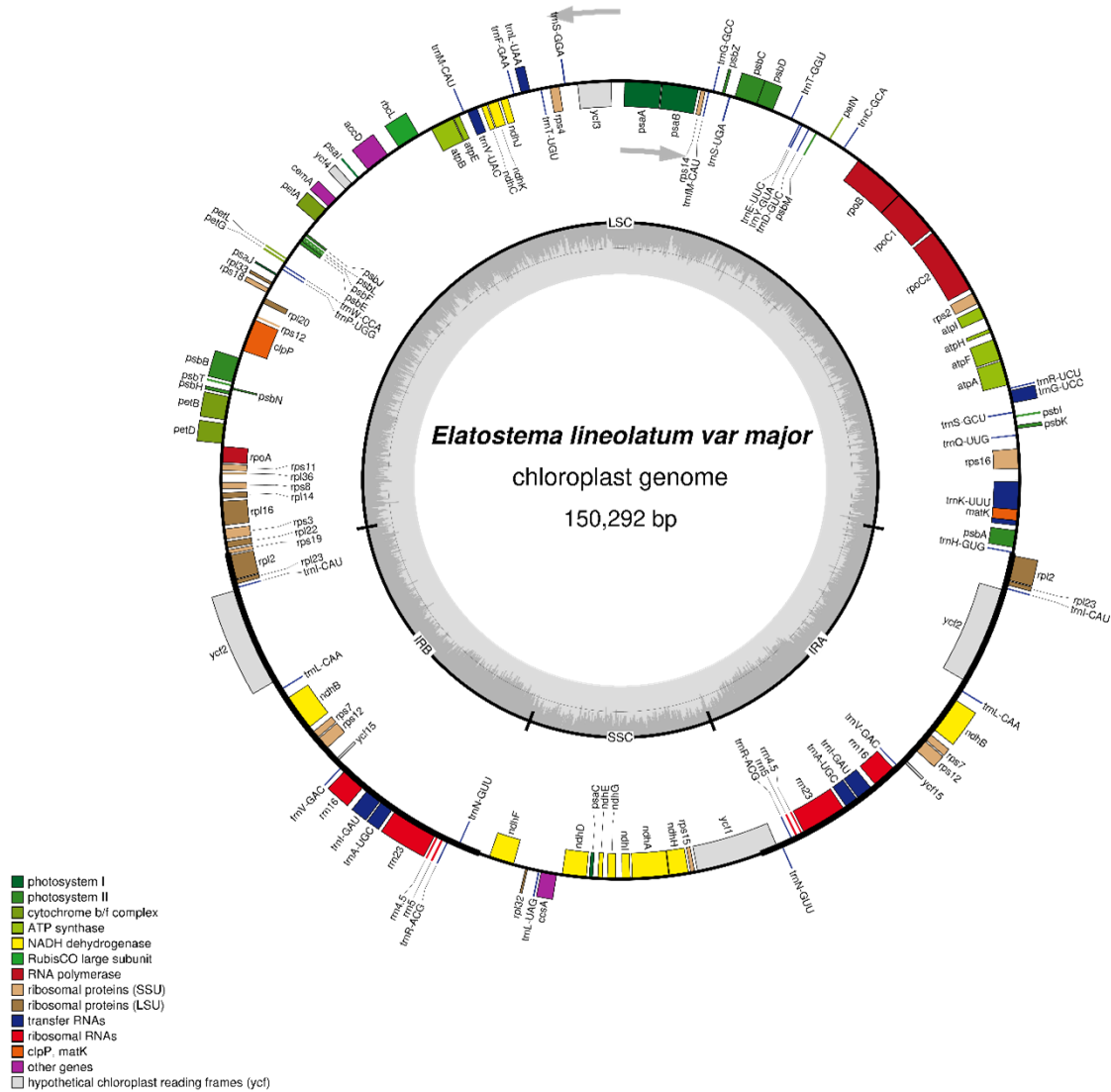
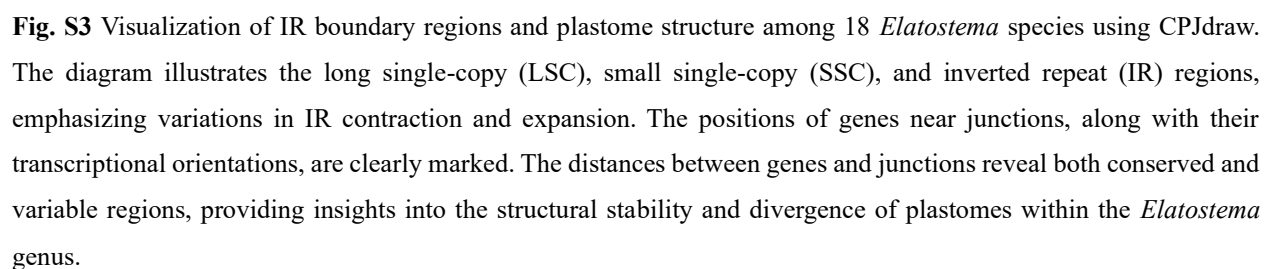


Fig. S2 Complete chloroplast genome map of *E. lineolatum* Wedd (GenBank: PQ722561). The 150,292 bp circular genome, visualized using OGDRAW, shows the quadripartite structure: LSC (83,953 bp), SSC (17,207 bp), and two IRs (24,566 bp each). Genes are color-coded by function. The inner circle graph represents GC content, with the dark line indicating values above the average (36.23%). Clockwise transcribed genes are on the outer circle, counterclockwise on the inner circle. Asterisks (*) denote intron-containing genes. The map highlights 131 genes, including 86 protein-coding genes, 37 tRNAs, and 8 rRNAs, with key photosynthetic, ATP synthase, and ribosomal genes indicated



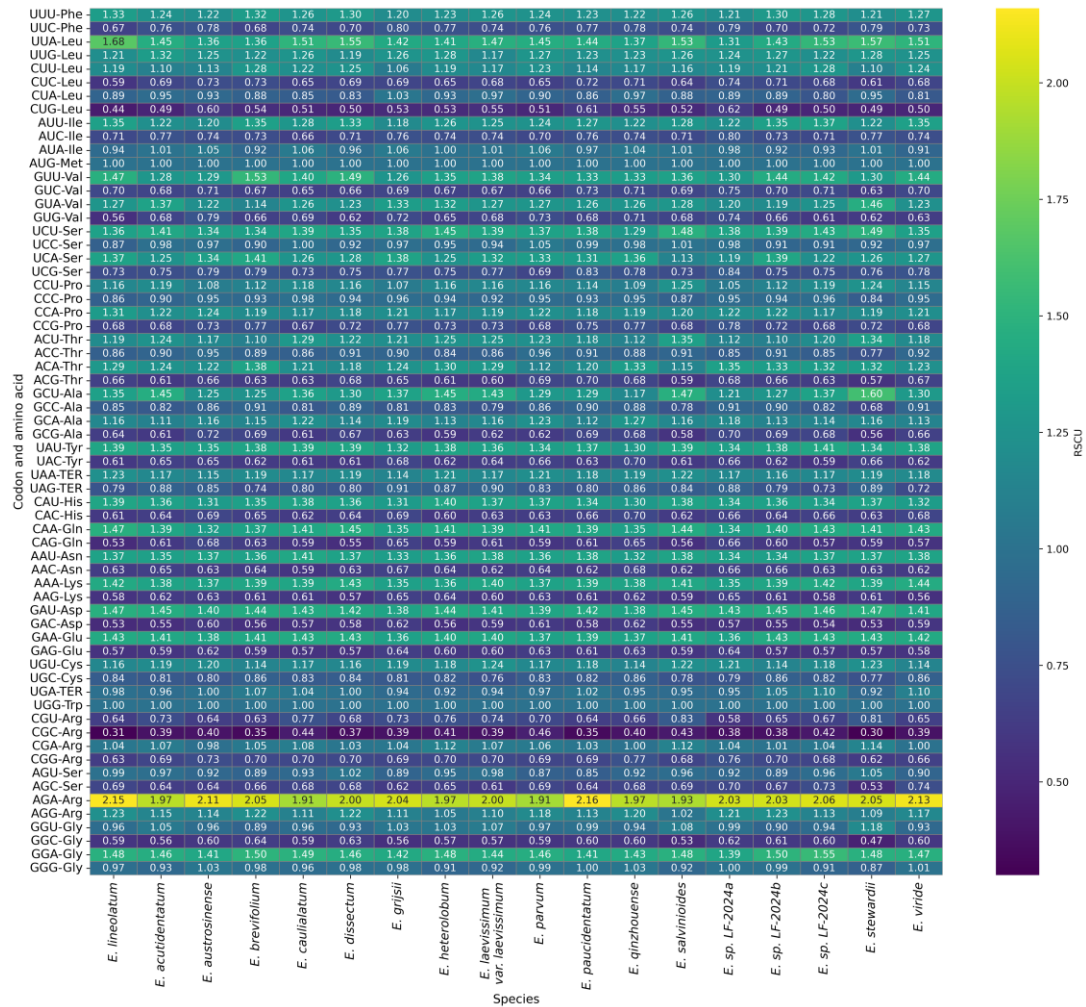


Fig. S4 Relative Synonymous Codon Usage (RSCU) heatmap for *Elatostema lineolatum* and related species. The heatmap illustrates codon usage bias across species, with codons grouped by their corresponding amino acids. The color intensity represents RSCU values, where higher values indicate preferential codon usage. Notable patterns include codon preference convergence among closely related species and distinct lineage-specific codon biases, particularly in phenylalanine and leucine codons. These findings provide insights into translational selection and evolutionary constraints shaping plastome codon usage within *Elatostema* and Urticaceae.

Table S1 List of 242 Urticaceae plastomes used in the comparative genomic analysis, including their GenBank accession numbers and species names

Accession number	Species	Genome size (bp)	GC %	No. of genes	No. of CDS	Length of CDS (bp)	Length of non-CDS (bp)	LSC length (bp)	IRb length (bp)	SSC length (bp)	IRa length (bp)
MT165902.1	<i>Ampelocera edentula</i>	161666	35.60550765	132	87	80085	81581	89542	26353	19418	26353
PP831697.1	<i>Archiboehmeria atrata</i>	156030	36.33467923	129	84	79017	77013	85710	25698	18924	25698
PP831697.1	<i>Archiboehmeria atrata</i> 2775859601	156030	36.33467923	129	84	79017	77013	85710	25698	18924	25698
OQ165290.1	<i>Astrothalamus reticulatus</i>	155730	36.14589353	128	83	78627	77103	85491	25661	18917	25661
OQ165290.1	<i>Astrothalamus reticulatus</i> 2721939253	155730	36.14589353	128	83	78627	77103	85491	25661	18917	25661
OM761896.1	<i>Australina pusilla</i>	152624	36.50539889	129	84	78147	74477	83557	25363	18341	25363
OM761896.1	<i>Australina pusilla</i> 2254861589	152624	36.50539889	129	84	78147	74477	83557	25363	18341	25363
MG880221.1	<i>Barbeya oleoides</i>	163827	35.46057732	129	84	78195	85632	91488	26325	19689	26325
PQ463635.1	<i>Berchemia floribunda</i>	160914	37.21615273	128	83	76629	84285	89219	26742	18211	26742
PP866773.1	<i>Boehmeria clidemioides</i>	170051	35.47053531	143	98	84882	85169	72707	39441	18462	39441
PP866773.1	<i>Boehmeria clidemioides</i> 2775859830	170051	35.47053531	143	98	84882	85169	72707	39441	18462	39441
PQ766620.1	<i>Boehmeria clidemioides</i> var <i>diffusa</i>	170741	35.45311319	143	98	84264	86477	71457	40420	18444	40420
PQ766620.1	<i>Boehmeria clidemioides</i> var <i>diffusa</i>	170741	35.45311319	143	98	84264	86477	71457	40420	18444	40420
PP866776.1	<i>Boehmeria densiflora</i>	159231	35.3480164	133	88	80229	79002	81082	29917	18315	29917
PP866776.1	<i>Boehmeria densiflora</i> 2775860099	159231	35.3480164	133	88	80229	79002	81082	29917	18315	29917
PP866774.1	<i>Boehmeria glomerulifera</i>	155320	36.00373423	129	84	79200	76120	84859	25900	18661	25900
PP866774.1	<i>Boehmeria glomerulifera</i> 2775859929	155320	36.00373423	129	84	79200	76120	84859	25900	18661	25900
MT465772.1	<i>Boehmeria japonica</i>	156266	35.66226818	130	85	79614	76652	83158	27358	18392	27358
MT465772.1	<i>Boehmeria japonica</i> 2214218351	156266	35.66226818	130	85	79614	76652	83158	27358	18392	27358
PP866772.1	<i>Boehmeria macrophylla</i>	161166	35.57201891	134	89	80907	80259	82512	30093	18468	30093
PP866772.1	<i>Boehmeria macrophylla</i> 2775859740	161166	35.57201891	134	89	80907	80259	82512	30093	18468	30093
MW057777.1	<i>Boehmeria nivea</i>	156065	36.32909365	129	84	78348	77717	85733	25680	18972	25680
MW057777.1	<i>Boehmeria nivea</i> 1951309343	156065	36.32909365	129	84	78348	77717	85733	25680	18972	25680

Table S1 continue

Accession number	Species	Genome size (bp)	GC%	No. of genes	No. of CDS	Length of CDS (bp)	Length of non-CDS (bp)	LSC length (bp)	IRb length (bp)	SSC length (bp)	IRa length (bp)
MK613340.1	<i>Boehmeria nivea</i> 2173450059	156035	36.33223315	130	85	79938	76097	85715	25698	18924	25698
MK613341.1	<i>Boehmeria nivea</i> 2173450145	155959	36.33775544	129	85	79941	76018	85639	25698	18924	25698
MN189944.1	<i>Boehmeria nivea</i> var. <i>nipononivea</i>	155806	36.35675134	121	84	79053	76753	85717	25698	18693	25698
MN189944.1	<i>Boehmeria nivea</i> var. <i>nipononivea</i> 1799624644	155806	36.35675134	121	84	79053	76753	85717	25698	18693	25698
OP425873.1	<i>Boehmeria nivea</i> var. <i>nivea</i>	156083	36.33451433	121	84	79059	77024	85734	25712	18925	25712
OP425873.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721945174	156083	36.33451433	121	84	79059	77024	85734	25712	18925	25712
OP425874.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721945259	155806	36.35931864	121	84	79053	76753	85718	25698	18692	25698
OP425875.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721945344	156035	36.32902874	121	84	79053	76982	85715	25698	18924	25698
OP425876.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721945429	155807	36.35780164	121	84	79053	76754	85720	25698	18691	25698
OP425877.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721945514	155812	36.36497831	121	84	79059	76753	85721	25676	18739	25676
OP425878.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721945599	155804	36.35721804	121	84	79053	76751	85716	25698	18692	25698
OP425879.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721945684	155805	36.35762652	121	84	79053	76752	85717	25698	18692	25698
OP425880.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721945769	155806	36.35739317	121	84	79053	76753	85717	25698	18693	25698
OP425881.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721945854	155916	36.33430822	121	84	79059	76857	85582	25680	18974	25680
OP425882.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721945939	155916	36.33366685	121	84	79059	76857	85582	25680	18974	25680
OP425883.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721946024	156117	36.32916338	121	84	79059	77058	85735	25702	18978	25702
OP425884.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721946109	155915	36.33389988	121	84	79059	76856	85582	25680	18973	25680
OP425885.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721946194	155806	36.35739317	121	84	79053	76753	85717	25698	18693	25698
OP425886.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721946279	155809	36.35797675	121	84	79053	76756	85722	25698	18691	25698
OP425887.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721946364	156031	36.32803738	121	84	79053	76978	85717	25698	18918	25698
OP425888.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721946449	156057	36.33351916	121	84	79002	77055	85739	25680	18958	25680
OP425889.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721946534	155806	36.35675134	121	84	79053	76753	85717	25698	18693	25698
OP425890.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721946619	156116	36.33131774	121	84	79059	77057	85734	25702	18978	25702
OP425891.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721946704	155788	36.36031017	121	84	79053	76735	85721	25698	18671	25698
OP425892.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721946789	155788	36.36159396	121	84	79053	76735	85721	25698	18671	25698
OP425893.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721946874	156116	36.33067719	121	84	79059	77057	85734	25702	18978	25702
OP425894.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721946959	156054	36.32845041	121	84	79053	77001	85736	25698	18922	25698

Table S1 continue

Accession number	Species	Genome size (bp)	GC%	No. of genes	No. of CDS	Length of CDS (bp)	Length of non-CDS (bp)	LSC length (bp)	IRb length (bp)	SSC length (bp)	IRa length (bp)
OP425895.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721947044	155916	36.33494959	121	84	79059	76857	85582	25680	18974	25680
OP425896.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721947129	155916	36.33430822	121	84	79059	76857	85582	25680	18974	25680
OP425898.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721947214	155805	36.35698469	121	84	79053	76752	85717	25698	18692	25698
OP425899.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721947299	155806	36.35675134	121	84	79053	76753	85717	25698	18693	25698
OP425900.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721947384	156010	36.34126018	121	84	79059	76951	85660	25712	18926	25712
OP425901.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721947469	155806	36.35675134	121	84	79053	76753	85717	25698	18693	25698
OP425902.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721947554	155805	36.359552	121	84	79053	76752	85715	25698	18694	25698
OP425903.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721947639	155787	36.36246927	121	84	79053	76734	85721	25698	18670	25698
OP425904.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721947724	155806	36.35675134	121	84	79053	76753	85717	25698	18693	25698
OP425905.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721947809	155806	36.35675134	121	84	79053	76753	85717	25698	18693	25698
OP425906.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721947894	156033	36.33013529	121	84	79053	76980	85713	25698	18924	25698
OP425907.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721947979	156005	36.34242492	121	84	79059	76946	85655	25712	18926	25712
OP425908.1	<i>Boehmeria nivea</i> var. <i>nivea</i> 2721948064	155806	36.35675134	121	84	79053	76753	85717	25698	18693	25698
OP549681.1	<i>Boehmeria nivea</i> var. <i>tenacissima</i>	156064	36.3280449	121	84	79068	76996	85731	25680	18973	25680
MW794314.1	<i>Boehmeria nivea</i> var. <i>tenacissima</i> 2128383008	155807	36.356518	127	82	78504	77303	85721	25698	18690	25698
OP549681.1	<i>Boehmeria nivea</i> var. <i>tenacissima</i> 2721953125	156064	36.3280449	121	84	79068	76996	85731	25680	18973	25680
OP549682.1	<i>Boehmeria nivea</i> var. <i>tenacissima</i> 2721953210	156040	36.32337862	121	84	79053	76987	85726	25698	18918	25698
OP549683.1	<i>Boehmeria nivea</i> var. <i>tenacissima</i> 2721953295	155927	36.33431029	121	84	79059	76868	85577	25680	18990	25680
OP549684.1	<i>Boehmeria pilosiuscula</i>	169428	35.47288524	144	99	80742	88686	70081	40451	18445	40451
OP549684.1	<i>Boehmeria pilosiuscula</i> 2721953380	169428	35.47288524	144	99	80742	88686	70081	40451	18445	40451
OR567316.1	<i>Boehmeria</i> sp. <i>PO-2024a</i>	161973	35.55222167	137	92	81654	80319	80186	31866	18055	31866
OR567316.1	<i>Boehmeria</i> sp. <i>PO-2024a</i> 2675148778	161973	35.55222167	137	92	81654	80319	80186	31866	18055	31866
MF990290.1	<i>Boehmeria spicata</i>	170958	35.31920121	145	100	86328	84630	70994	40743	18478	40743
MF990290.1	<i>Boehmeria spicata</i> 1336505794	170958	35.31920121	145	100	86328	84630	70994	40743	18478	40743
OP432737.1	<i>Boehmeria tomentosa</i>	160324	35.5773309	128	83	78534	81790	82632	29622	18448	29622

Table S1 continue

Accession number	Species	Genome size (bp)	GC%	No. of genes	No. of CDS	Length of CDS (bp)	Length of non-CDS (bp)	LSC length (bp)	IRb length (bp)	SSC length (bp)	IRa length (bp)
MN189945.1	<i>Boehmeria tomentosa</i> 1799624729	154938	36.41198415	120	84	78795	76143	85720	25698	17822	25698
OP432737.1	<i>Boehmeria tomentosa</i> 2721939058	160324	35.5773309	128	83	78534	81790	82632	29622	18448	29622
OR643823.1	<i>Boehmeria tricuspis</i>	157765	35.67204386	132	87	79797	77968	84524	27428	18385	27428
OR643823.1	<i>Boehmeria tricuspis</i> 2739764938	157765	35.67204386	132	87	79797	77968	84524	27428	18385	27428
OP549685.1	<i>Boehmeria tsaratananensis</i>	154753	35.72984046	127	82	78165	76588	84234	25951	18617	25951
OP549685.1	<i>Boehmeria tsaratananensis</i> 2721953480	154753	35.72984046	127	82	78165	76588	84234	25951	18617	25951
OQ183443.1	<i>Boehmeria ulmifolia</i>	154946	35.58594607	127	82	78108	76838	84575	25833	18705	25833
OQ183443.1	<i>Boehmeria ulmifolia</i> 2721939441	154946	35.58594607	127	82	78108	76838	84575	25833	18705	25833
OP549687.1	<i>Boehmeria umbrosa</i>	159186	35.64132524	130	84	73851	85335	82941	28932	18381	28932
MF990291.1	<i>Boehmeria umbrosa</i> 1336505894	170920	35.53182776	146	101	86700	84220	68844	41807	18462	41807
OP549687.1	<i>Boehmeria umbrosa</i> 2721953563	159186	35.64132524	130	84	73851	85335	82941	28932	18381	28932
OQ183444.1	<i>Boehmeria virgata</i>	154793	35.56943789	127	82	78099	76694	84204	25943	18703	25943
OQ183444.1	<i>Boehmeria virgata</i> 2721939655	154793	35.56943789	127	82	78099	76694	84204	25943	18703	25943
PP866775.1	<i>Boehmeria zollingeriana</i>	154923	36.02241113	129	84	79050	75873	84501	25882	18658	25882
OP432736.1	<i>Boehmeria zollingeriana</i> 2721938853	155166	36.00144362	127	82	73125	82041	84767	25858	18683	25858
PP866775.1	<i>Boehmeria zollingeriana</i> 2775860014	154923	36.02241113	129	84	79050	75873	84501	25882	18658	25882
MF953831.1	<i>Cecropia pachystachya</i>	153925	36.53857398	121	84	78678	75247	84947	25443	18092	25443
MF953831.1	<i>Cecropia pachystachya</i> 1480117065	153925	36.53857398	121	84	78678	75247	84947	25443	18092	25443
MN189946.1	<i>Cecropia pachystachya</i> 1799624814	153655	36.55917477	121	84	79101	74554	84645	25443	18124	25443
OM761898.1	<i>Cecropia pachystachya</i> 2254861674	153654	36.55941271	128	83	78882	74772	84644	25443	18124	25443
PP866778.1	<i>Cypholophus macrocephalus</i>	142627	35.58162199	127	82	70053	72574	89709	16948	19022	16948
PP866778.1	<i>Cypholophus macrocephalus</i> 2775860273	142627	35.58162199	127	82	70053	72574	89709	16948	19022	16948
ON060312.1	<i>Debregeasia orientalis</i>	155750	36.29470305	122	83	79293	76457	85492	25649	18960	25649
ON060323.1	<i>Debregeasia orientalis</i> 2675177756	155795	36.29513142	122	83	79293	76502	85544	25649	18953	25649
ON060324.1	<i>Debregeasia orientalis</i> 2675177840	155743	36.29376601	122	83	79293	76450	85469	25649	18976	25649
ON060325.1	<i>Debregeasia orientalis</i> 2675177924	155743	36.2944081	122	83	79293	76450	85469	25649	18976	25649
ON060326.1	<i>Debregeasia orientalis</i> 2675178008	155774	36.29874048	122	83	79293	76481	85514	25649	18962	25649

Table S1 continue

Accession number	Species	Genome size (bp)	GC%	No. of genes	No. of CDS	Length of CDS (bp)	Length of non-CDS (bp)	LSC length (bp)	IRb length (bp)	SSC length (bp)	IRa length (bp)
ON060327.1	<i>Debregeasia orientalis</i> 2675178092	155807	36.28784329	122	83	79293	76514	85527	25649	18982	25649
ON060328.1	<i>Debregeasia orientalis</i> 2675178176	155815	36.29047268	122	83	79287	76528	85544	25649	18973	25649
ON060329.1	<i>Debregeasia orientalis</i> 2675178260	155846	36.28517896	122	83	79293	76553	85574	25649	18974	25649
ON060330.1	<i>Debregeasia orientalis</i> 2675178344	155847	36.28237951	122	83	79293	76554	85575	25649	18974	25649
ON060331.1	<i>Debregeasia orientalis</i> 2675178428	155839	36.28616713	122	83	79293	76546	85552	25649	18989	25649
ON060332.1	<i>Debregeasia orientalis</i> 2675178512	155826	36.28598565	122	83	79293	76533	85551	25649	18977	25649
ON060333.1	<i>Debregeasia orientalis</i> 2675178596	155826	36.28598565	122	83	79293	76533	85551	25649	18977	25649
ON060334.1	<i>Debregeasia orientalis</i> 2675178680	155826	36.28598565	122	83	79293	76533	85551	25649	18977	25649
ON060335.1	<i>Debregeasia orientalis</i> 2675178764	155775	36.29850746	122	83	79293	76482	85515	25649	18962	25649
ON060336.1	<i>Debregeasia orientalis</i> 2675178848	155840	36.28593429	122	83	79293	76547	85561	25649	18981	25649
ON060337.1	<i>Debregeasia orientalis</i> 2675178932	155775	36.29850746	122	83	79293	76482	85515	25649	18962	25649
ON060338.1	<i>Debregeasia orientalis</i> 2675179016	155879	36.27878034	122	83	79293	76586	85607	25649	18974	25649
ON060339.1	<i>Debregeasia orientalis</i> 2675179100	155883	36.28041544	122	83	79293	76590	85611	25649	18974	25649
ON060340.1	<i>Debregeasia orientalis</i> 2675179184	155898	36.27949044	122	83	79293	76605	85626	25649	18974	25649
ON060341.1	<i>Debregeasia orientalis</i> 2675179268	155883	36.28041544	122	83	79293	76590	85611	25649	18974	25649
ON060342.1	<i>Debregeasia orientalis</i> 2675179352	155837	36.28855792	122	83	79293	76544	85571	25649	18968	25649
ON060343.1	<i>Debregeasia orientalis</i> 2675179436	155826	36.28598565	122	83	79293	76533	85551	25649	18977	25649
ON060344.1	<i>Debregeasia orientalis</i> 2675179520	155826	36.28598565	122	83	79293	76533	85551	25649	18977	25649
ON060345.1	<i>Debregeasia orientalis</i> 2675179604	155806	36.28743437	122	83	79293	76513	85527	25649	18981	25649
ON060346.1	<i>Debregeasia orientalis</i> 2675179688	155768	36.29179292	122	83	79293	76475	85549	25622	18975	25622
ON060347.1	<i>Debregeasia orientalis</i> 2675179772	155769	36.29220191	122	83	79293	76476	85550	25622	18975	25622
ON060348.1	<i>Debregeasia orientalis</i> 2675179856	155768	36.29179292	122	83	79293	76475	85549	25622	18975	25622
ON060349.1	<i>Debregeasia orientalis</i> 2675179940	155837	36.28470774	122	83	79293	76544	85558	25649	18981	25649
ON060350.1	<i>Debregeasia orientalis</i> 2675180024	155769	36.29220191	122	83	79293	76476	85550	25622	18975	25622
ON060351.1	<i>Debregeasia orientalis</i> 2675180108	155838	36.28704167	122	83	79275	76563	85559	25649	18981	25649
OP432735.1	<i>Debregeasia orientalis</i> 2721938646	155737	36.29516428	129	84	78840	76897	85499	25639	18960	25639

Table S1 continue

Accession number	Species	Genome size (bp)	GC%	No. of genes	No. of CDS	Length of CDS (bp)	Length of non-CDS (bp)	LSC length (bp)	IRb length (bp)	SSC length (bp)	IRa length (bp)
PP873641.1	<i>Debregeasia</i> sp.	156013	36.28479678	129	84	79032	76981	85601	25664	19084	25664
PP873641.1	<i>Debregeasia</i> sp. 2778079981	156013	36.28479678	129	84	79032	76981	85601	25664	19084	25664
OM761900.1	<i>Dendrocide basirotanda</i>	152646	36.59185305	129	84	78672	73974	83433	25492	18229	25492
OM761901.1	<i>Dendrocide meyeniana</i>	152621	36.64502264	129	84	78732	73889	83430	25521	18149	25521
OM761902.1	<i>Dendrocide sinuata</i>	152650	36.610547	130	85	79689	72961	83459	25482	18227	25482
OM761904.1	<i>Dendrocide urentissima</i>	152658	36.58963173	129	84	78672	73986	83444	25492	18230	25492
MT465768.1	<i>Didymodoxa caffra</i>	154684	36.36510563	126	81	76824	77860	84773	25536	18839	25536
MN189960.1	<i>Droguetia iners</i>	149414	36.89279452	120	84	77625	71789	81072	25297	17748	25297
MK131395.1	<i>Elaeagnus angustifolia</i>	150546	36.94950381	132	86	79824	70722	81113	25494	18445	25494
OR521107.1	<i>Elatostema acutidentatum</i>	153693	36.43562166	131	86	78360	75333	74104	30138	19313	30138
OR521108.1	<i>Elatostema austrosinense</i>	153635	36.41553032	131	86	76455	77180	87331	24565	17174	24565
OR521104.1	<i>Elatostema brevifolium</i>	153419	36.4420313	131	86	78012	75407	84673	25550	17646	25550
OR521100.1	<i>Elatostema caulialatum</i>	153525	36.4155675	131	86	78246	75279	84761	19313	30138	19313
MK227819.1	<i>Elatostema dissectum</i>	150302	36.23438145	130	86	75909	74393	83998	24565	17174	24565
OR521103.1	<i>Elatostema grijsii</i>	153603	36.41986159	131	86	77010	76593	84837	25550	17666	25550
OR521101.1	<i>Elatostema heterolobum</i>	153732	36.42702886	131	86	78126	75606	84925	25574	17659	25574
MN189961.1	<i>Elatostema laevissimum</i> var. <i>laevissimum</i>	150244	36.23838556	121	84	76113	74131	83968	24579	17118	24579
PQ722561	<i>Elatostema lineolatum</i>	150292	36.22814255	131	86	75153	75139	83953	24566	17207	24566
OM761906.1	<i>Elatostema parvum</i>	153091	36.33655799	129	84	77619	75472	84715	25296	17784	25296
OR521102.1	<i>Elatostema paucidentatum</i>	153547	36.41034993	131	86	78246	75301	84783	19313	30138	19313
MW172521.1	<i>Elatostema qinzhouense</i>	150398	36.34090879	131	86	76413	73985	83919	24688	17103	24688
OM913477.1	<i>Elatostema salvinoides</i>	152265	36.3878764	131	86	77193	75072	84666	25535	16529	25535
OR521091.1	<i>Elatostema</i> sp. <i>LF-2024a</i>	153298	36.41078161	131	86	77820	75478	84550	25586	17567	25586
OR521094.1	<i>Elatostema</i> sp. <i>LF-2024b</i>	153563	36.42934822	131	86	78213	75350	84550	25550	17567	25550
OR521106.1	<i>Elatostema</i> sp. <i>LF-2024c</i>	153607	36.43193344	131	86	77721	75886	84846	25550	17661	25550
MZ292972.1	<i>Elatostema stewardii</i>	150263	36.34960037	129	85	76236	74027	83791	24681	17110	24681
OR521105.1	<i>Elatostema viride</i>	153370	36.45041403	130	85	75867	77503	84618	25550	17652	25550

Table S1 continue

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MT465767.1	<i>Forsskaolea angustifolia</i>	156714	36.14546243	128	83	78912	77802	85966	25765	19218	25765
OQ077729.1	<i>Forsskaolea tenacissima</i>	156677	36.15655138	129	87	82800	73877	85927	25766	19218	25766
MT465766.1	<i>Gesnouinia arborea</i>	153065	36.31921079	128	83	77067	75998	84628	24864	18709	24864
OM877286.1	<i>Girardinia bullosa</i>	152388	36.94779116	129	84	78729	73659	82974	25843	17728	25843
OM877274.1	<i>Girardinia chingiana</i>	152659	36.95425753	130	85	79860	72799	83451	25570	18068	25570
OM877271.1	<i>Girardinia diversifolia</i>	152818	36.96030572	130	85	79959	72859	83510	25590	18128	25590
OM877262.1	<i>Girardinia diversifolia subsp. triloba</i>	152874	36.96050342	130	85	80010	72864	83516	25608	18142	25608
OM877269.1	<i>Girardinia formosana</i>	152518	36.96678425	130	85	79860	72658	83373	25570	18005	25570
MT465765.1	<i>Girardinia suborbiculata subsp. grammata</i>	152524	36.67160578	128	83	78690	73834	83336	25514	18160	25514
OM877265.1	<i>Girardinia suborbiculata subsp. suborbiculata</i>	152894	36.94389577	130	85	79899	72995	83650	25570	18104	25570
MN189963.1	<i>Hemistylus odontophylla</i>	153652	36.02556426	121	84	78870	74782	84346	25287	18732	25287
MN189964.1	<i>Hesperocnide tenella</i>	146842	36.3710655	122	84	77640	69202	79535	24808	17691	24808
OM761915.1	<i>Laportea aestuans</i>	153521	36.60150729	129	84	78426	75095	82883	27069	16500	27069
OL334513.1	<i>Laportea bulbifera</i>	150042	36.79769664	131	84	78300	71742	82414	24957	17714	24957
OM761920.1	<i>Laportea canadensis</i>	150253	36.80192742	129	84	78414	71839	82394	25038	17783	25038
OM761921.1	<i>Laportea cuspidata</i>	149149	36.92884297	128	83	78186	70963	80905	25397	17450	25397
OM877281.1	<i>Laportea decumana</i>	151855	36.73570182	129	84	78645	73210	82777	25499	18080	25499
OM877279.1	<i>Laportea medogensis</i>	150196	36.6740792	129	84	78534	71662	82385	25026	17759	25026
OM761923.1	<i>Laportea mooreana</i>	150827	36.75535547	129	84	78846	71981	81878	25289	18371	25289
OM877275.1	<i>Laportea oligoloba</i>	152919	36.78679562	129	84	78420	74499	84056	25151	18561	25151
OM761924.1	<i>Laportea ovalifolia</i>	153659	36.57514366	129	84	78594	75065	82193	27435	16596	27435
OM761925.1	<i>Leucosyke puya</i>	156511	35.98660797	128	83	78933	77578	85979	25670	19192	25670
OM761926.1	<i>Nanocnide japonica</i>	145970	36.64383092	127	82	77016	68954	78396	25137	17300	25137
OM761927.1	<i>Nanocnide lobata</i>	145302	36.62785096	128	83	78741	66561	77962	25039	17262	25039
OM761929.1	<i>Obetia aldabrensis</i>	153239	36.78893754	129	84	78462	74777	84219	25196	18628	25196
MT465832.1	<i>Oreocnide boniana</i>	157015	36.29907971	129	84	78999	78016	86611	25694	19016	25694

Table S1 continue

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MN189965.1	<i>Oreocnide frutescens</i>	156966	36.31295949	121	84	79062	77904	86562	25694	19016	25694
MT465829.1	<i>Oreocnide frutescens subsp. frutescens</i>	157182	36.29677698	129	84	78813	78369	86670	25694	19124	25694
MT465824.1	<i>Oreocnide integrifolia</i>	157053	36.29793764	129	84	79020	78033	86627	25694	19038	25694
MT465820.1	<i>Oreocnide kwangsiensis</i>	156962	36.30751392	129	84	78999	77963	86558	25694	19016	25694
MT465819.1	<i>Oreocnide obovata var. paradoxa</i>	156986	36.30705923	129	84	79014	77972	86582	25694	19016	25694
MT465811.1	<i>Oreocnide pedunculata</i>	157046	36.20658915	129	84	79080	77966	86590	25704	19048	25704
MT465787.1	<i>Oreocnide rubescens</i>	157135	36.27708658	129	84	79029	78106	86640	25705	19085	25705
MT465786.1	<i>Oreocnide serrulata</i>	157015	36.29716906	129	84	78999	78016	86611	25694	19016	25694
MT465784.1	<i>Oreocnide tonkinensis</i>	156736	36.30308289	129	84	78987	77749	86365	25678	19015	25678
MT465783.1	<i>Oreocnide tonkinensis var. discolor</i>	156984	36.29987769	129	84	79020	77964	86574	25694	19022	25694
MT465773.1	<i>Oreocnide trinervis</i>	156793	36.3243257	129	84	78960	77833	86439	25666	19022	25666
MN189966.1	<i>Parietaria debilis</i>	152988	36.24401914	120	84	77403	75585	84424	24926	18712	24926
ON641348.1	<i>Parietaria judaica</i>	152689	36.29207081	130	85	77196	75493	84212	24879	18719	24879
ON641310.1	<i>Parietaria mauritanica</i>	152689	36.29076096	130	85	77196	75493	84212	24879	18719	24879
MT465763.1	<i>Parietaria praetermissa</i>	153573	36.21600151	128	83	76410	77163	84975	24917	18764	24917
OR521097.1	<i>Pellionia pellucida</i>	153407	36.40772585	131	86	78249	75158	84658	25586	17577	25586
OL800583.1	<i>Pellionia scabra</i>	153220	36.4162642	130	85	76968	76252	84480	25586	17568	25586
OR521109.1	<i>Pellionia yunnanensis</i>	153588	36.47290153	130	85	77505	76083	84838	25552	17646	25552
MT876479.1	<i>Pilea cadieriei</i>	152245	36.70071267	134	88	79668	72577	82766	25743	17993	25743
MW302172.1	<i>Pilea cavaleriei</i>	151557	36.71951807	126	85	79020	72537	82817	25164	18412	25164
OP921230.1	<i>Pilea cavernicola</i>	152343	36.568139	130	86	78585	73758	83188	25344	18467	25344
ON496932.1	<i>Pilea danxiaensis</i>	151857	36.68121983	131	86	73707	78150	82836	25307	18407	25307
MT465762.1	<i>Pilea dolichocarpa</i>	151471	36.65652171	129	84	78930	72541	82929	25645	17252	25645
MT726015.1	<i>Pilea glauca (nom. nud.)</i>	151210	36.69069506	132	86	78945	72265	82662	25356	17836	25356
MT876480.1	<i>Pilea microphylla</i>	150019	36.6100294	133	87	78693	71326	82478	25133	17275	25133
MT726018.1	<i>Pilea mollis</i>	150587	36.72030122	132	86	78948	71639	82063	25330	17864	25330

Table S1 continue

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MW302173.1	<i>Pilea monilifera</i>	150938	36.78729015	129	86	79290	71648	81431	25743	18021	25743
OQ198624.1	<i>Pilea notata</i>	150979	36.77994953	131	86	78948	72031	81446	25743	18047	25743
MT465761.1	<i>Pilea penninervis</i>	150576	36.35307087	127	82	75225	75351	84130	24676	17094	24676
MT726016.1	<i>Pilea peperomioides</i>	152327	36.34877599	132	86	79392	72935	83292	25336	18363	25336
MW302174.1	<i>Pilea peploides</i>	150924	36.66679918	131	86	78933	71991	82229	25181	18333	25181
MW302175.1	<i>Pilea plataniflora</i>	152143	36.35264192	128	85	79095	73048	83132	25320	18371	25320
MT876481.1	<i>Pilea pumila</i>	152036	36.24141651	133	87	79449	72587	83059	25299	18379	25299
ON496933.1	<i>Pilea sinocrassifolia</i>	151462	36.70095469	130	86	78012	73450	82722	25167	18406	25167
MT726017.1	<i>Pilea thymifolia</i>	150398	36.40540433	132	86	78528	71870	82551	25180	17487	25180
MT876482.1	<i>Pilea verrucosa</i>	150969	36.78238579	134	88	79767	71202	81446	25743	18037	25743
MN189967.1	<i>Pipturus arborescens</i>	154069	36.22532761	121	84	78903	75166	84767	25303	18696	25303
OM761930.1	<i>Poikilospermum cordifolium</i>	153801	36.83981248	129	84	78513	75288	84436	25374	18617	25374
MK778867.1	<i>Poikilospermum lanceolatum</i>	153454	36.89379228	131	86	79803	73651	84201	25541	18171	25541
OM877282.1	<i>Poikilospermum naucleiflorum</i>	153782	36.85541871	129	84	78513	75269	84414	25384	18600	25384
PQ210874.1	<i>Pouzolzia sp.</i>	153175	36.07246613	131	84	78474	74701	83928	19157	30933	19157
MW114890.1	<i>Procris crenata</i>	154124	36.52773092	131	86	78714	75410	84599	25626	18273	25626
MN189969.1	<i>Rousselia humilis</i>	153301	36.02781456	121	84	78447	74854	84334	25231	18505	25231
PP866777.1	<i>Sarcochlamys pulcherrima</i>	156169	35.97961183	129	84	78891	77278	85963	25716	18774	25716
OM761934.1	<i>Touchardia latifolia</i>	152871	36.63677218	129	84	78477	74394	84003	25308	18252	25308
OM761935.1	<i>Urera baccifera</i>	153215	36.69288255	129	84	78633	74582	84314	25437	18027	25437
OM877278.1	<i>Urera cameroonensis</i>	153212	36.87635433	129	84	78603	74609	83990	25345	18532	25345
OM877277.1	<i>Urera capitata</i>	153771	36.73644575	129	84	78618	75153	84297	25424	18626	25424
OM877276.1	<i>Urera cf. cordifolia</i> Ur15	153214	36.87391492	129	84	78603	74611	83992	25343	18536	25343
OM761936.1	<i>Urera glabra</i>	152663	36.67882853	129	84	78129	74534	83499	25331	18502	25331
OM761937.1	<i>Urera hypselodendron</i>	153212	36.88353393	129	84	78603	74609	84007	25345	18515	25345
OM761938.1	<i>Urera robusta</i>	153198	36.87189128	129	84	78600	74598	84017	25345	18491	25345

Table S1 continue

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PQ846489.1	<i>Urtica cannabina</i>	147958	36.5569959	128	83	79179	68779	79648	25390	17530	25390
OM761945.1	<i>Urtica dioica</i>	147799	36.57467236	128	83	79230	68569	79653	25274	17598	25274
MT465760.1	<i>Urtica dioica subsp. xingjiangensis</i>	147935	36.55727177	127	82	78243	69692	79627	25389	17530	25389
OM877284.1	<i>Urtica mairei var. mairei</i>	146819	36.60221089	127	83	79101	67718	79691	24713	17702	24713
OM877283.1	<i>Urtica radicans</i>	146667	36.63741673	128	82	76488	70179	79819	24593	17662	24593
OM761956.1	<i>Urtica sp.</i>	147508	36.33836809	128	83	78108	69400	79069	25385	17669	25385
OM761957.1	<i>Urtica thunbergiana</i>	146846	36.57641339	127	82	77940	68906	79667	24734	17711	24734
OM761958.1	<i>Urtica urens</i>	147544	36.32882394	129	84	79353	68191	79088	25394	17668	25394
OM761908.1	<i>Zhengyia shennongensis</i>	150109	36.82790506	129	84	78690	71419	81186	25519	17885	25519