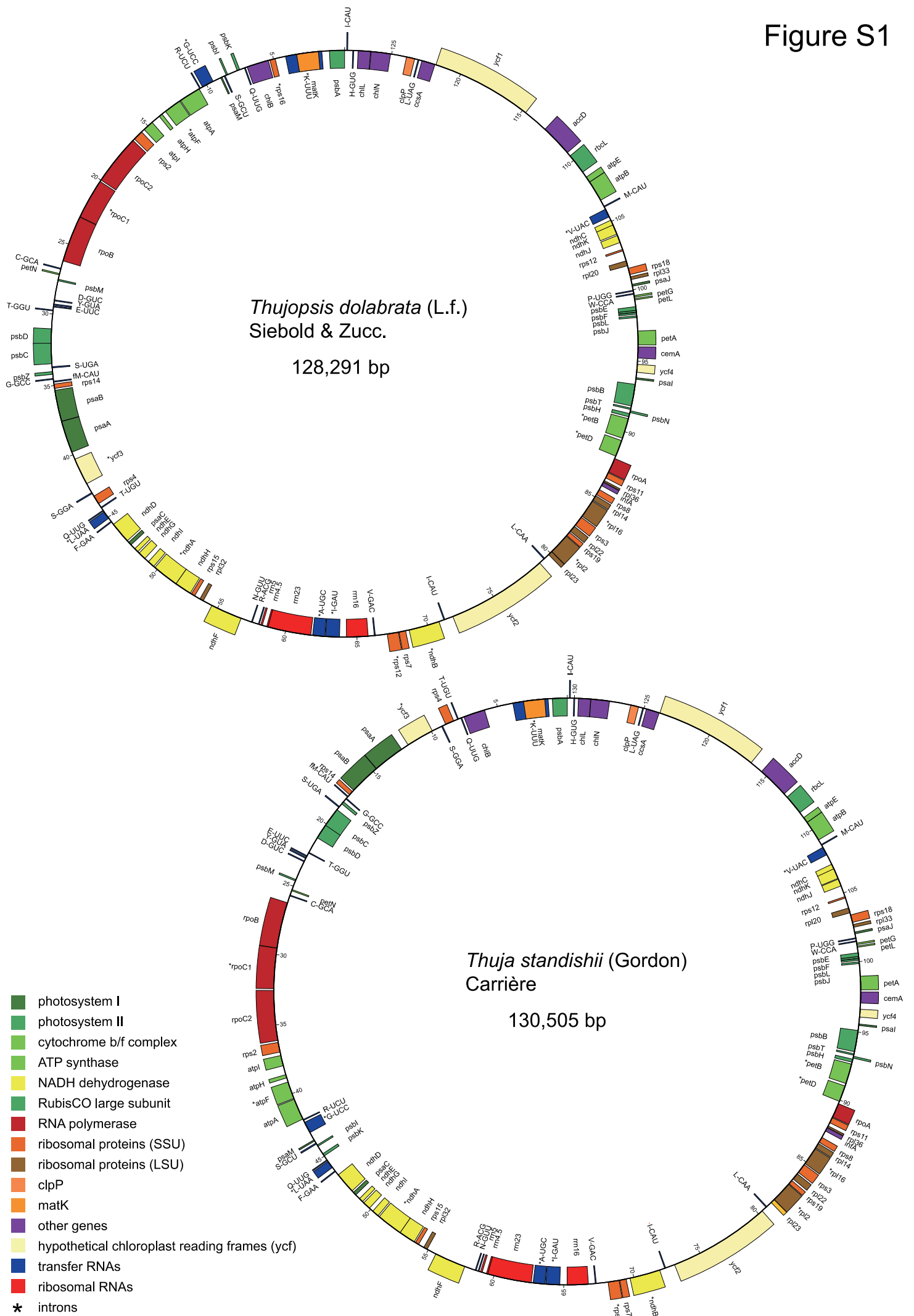
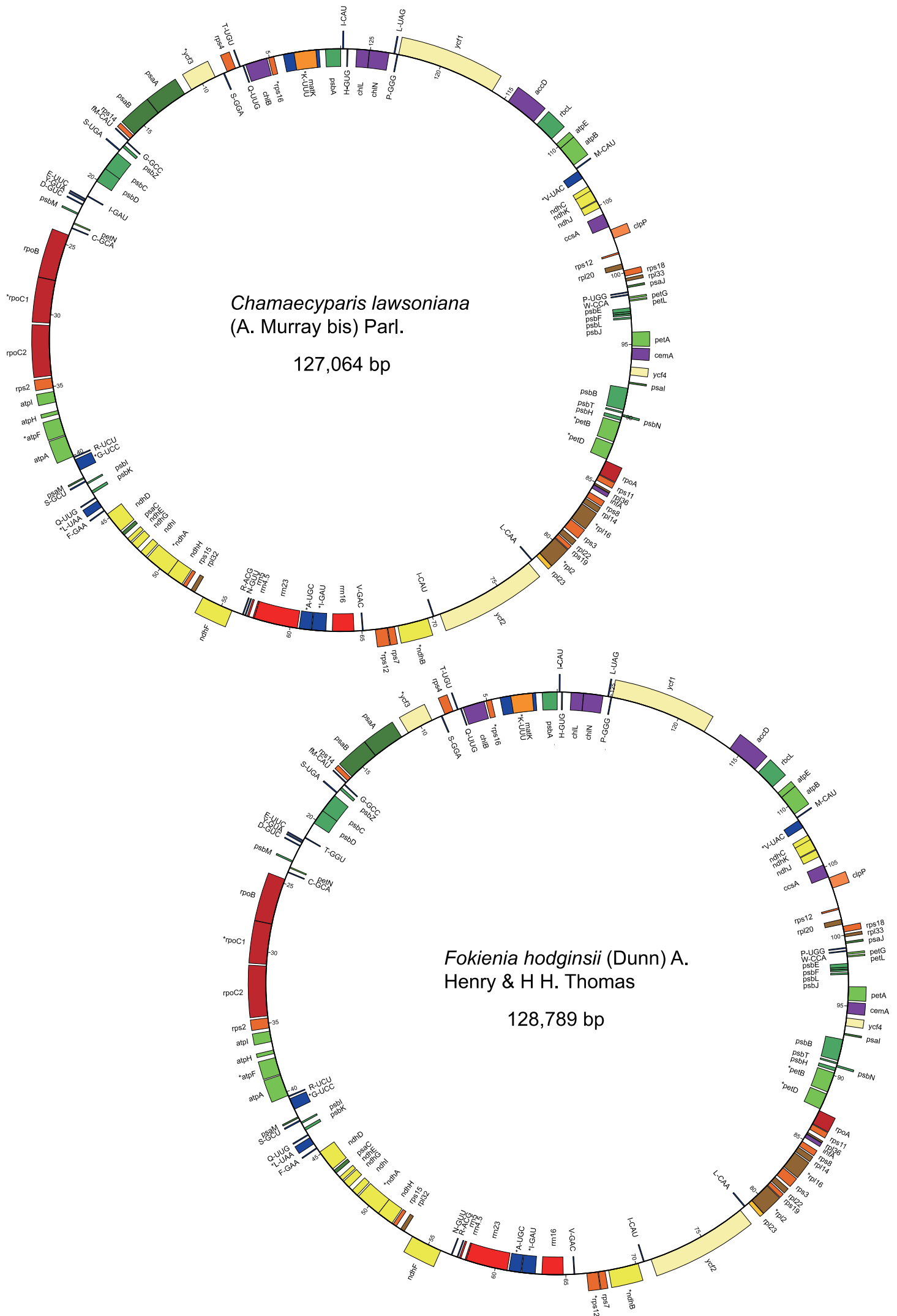


Figure S1



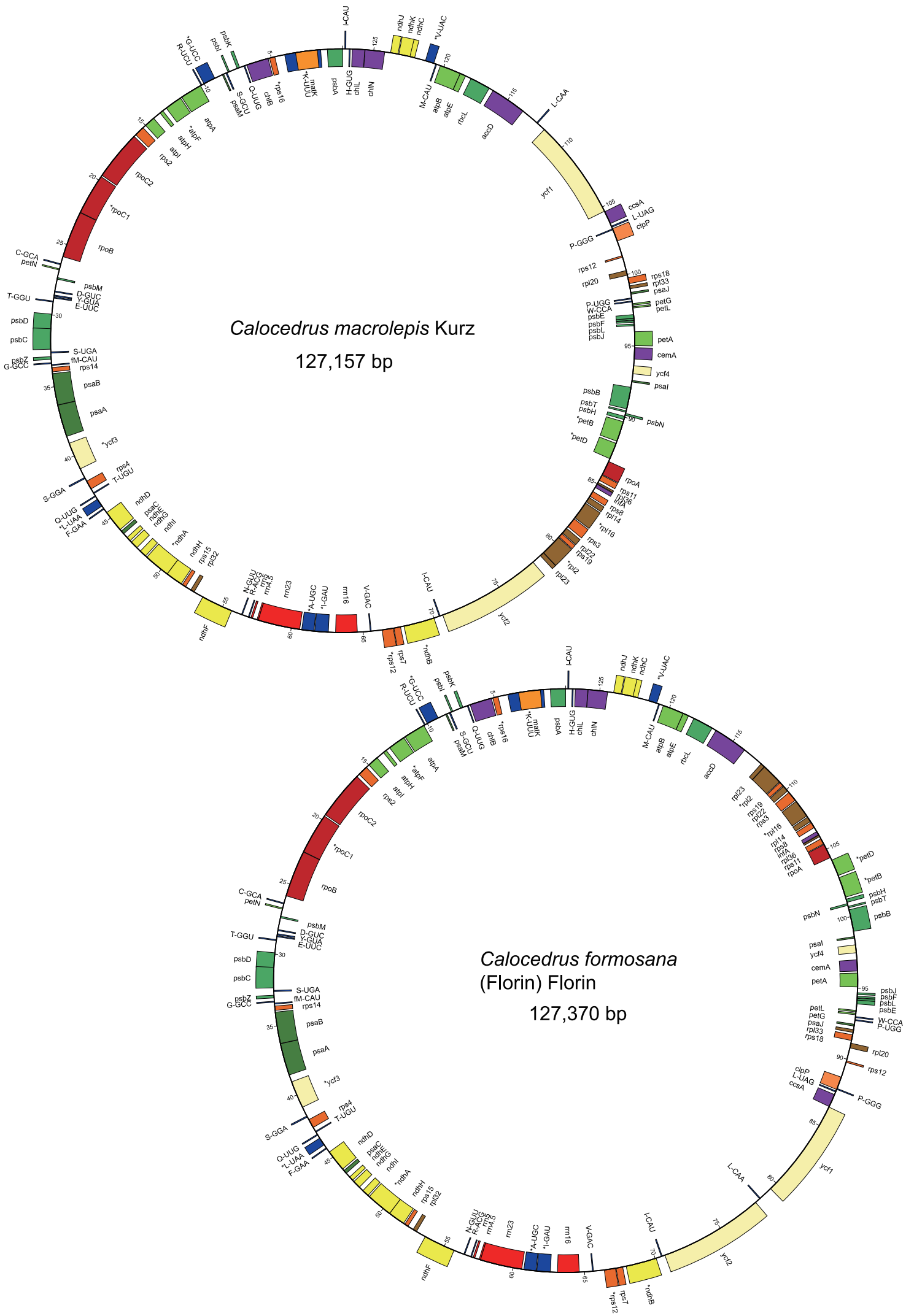
*Chamaecyparis lawsoniana*  
(A. Murray bis) Parl.

127,064 bp



*Fokienia hodginsii* (Dunn) A.  
Henry & H H. Thomas

128,789 bp



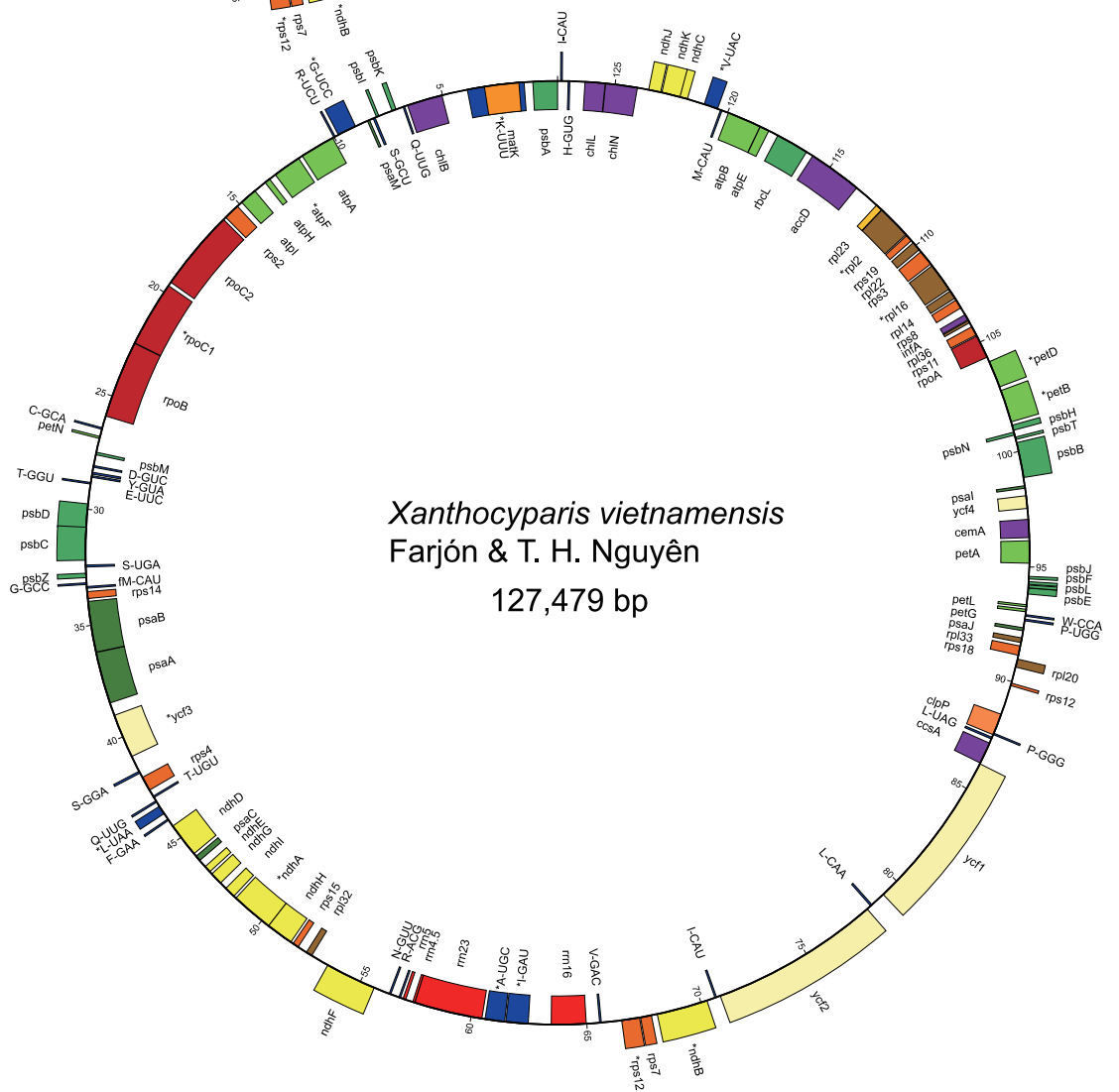
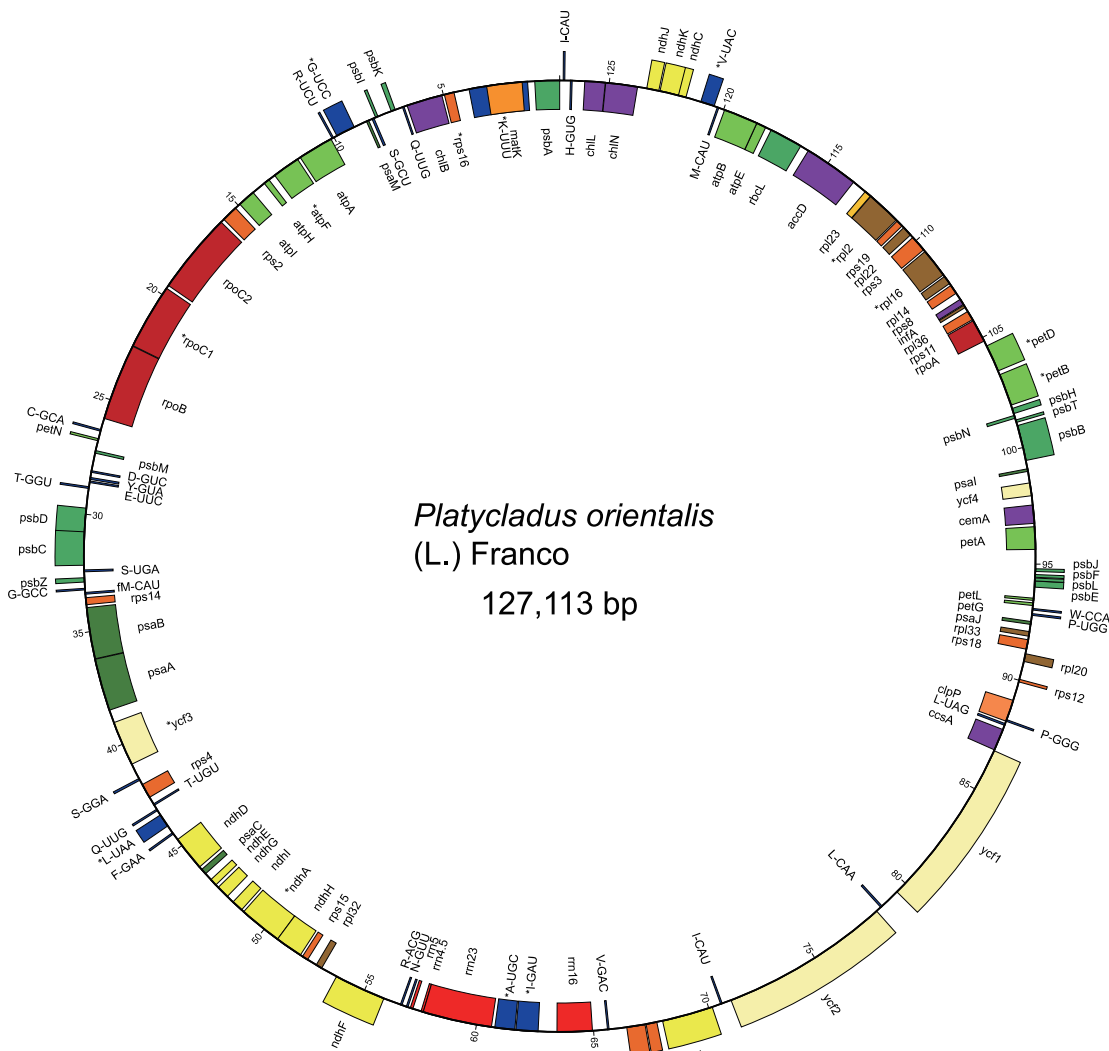
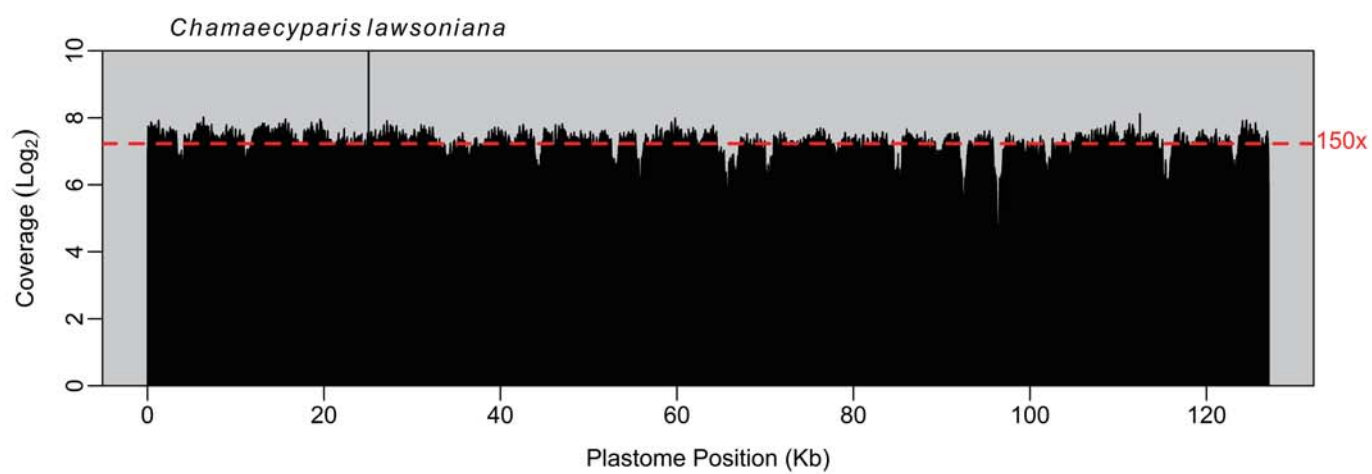
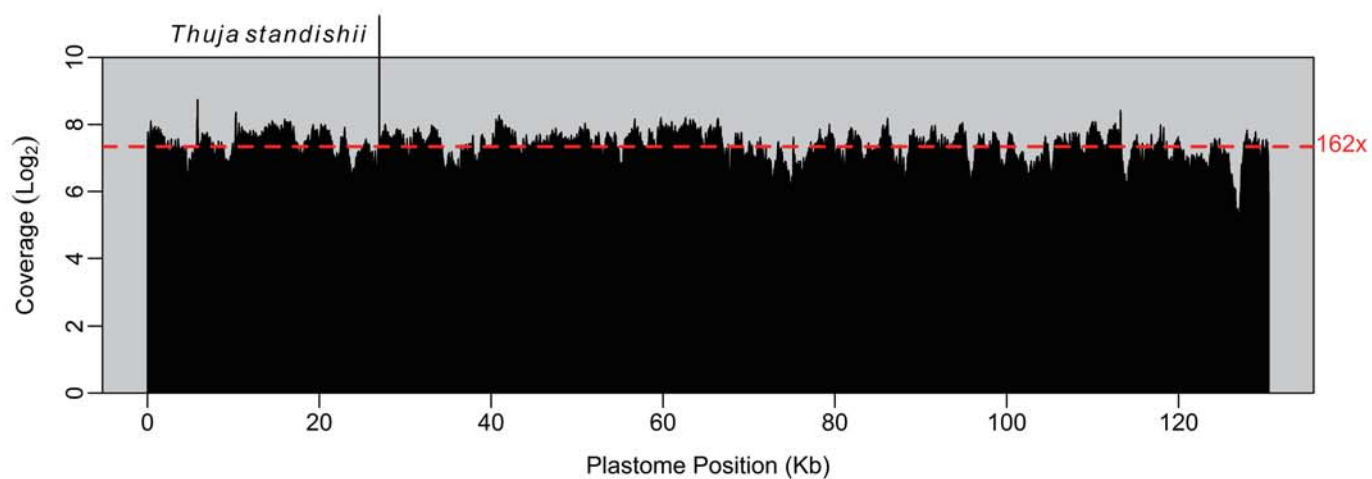
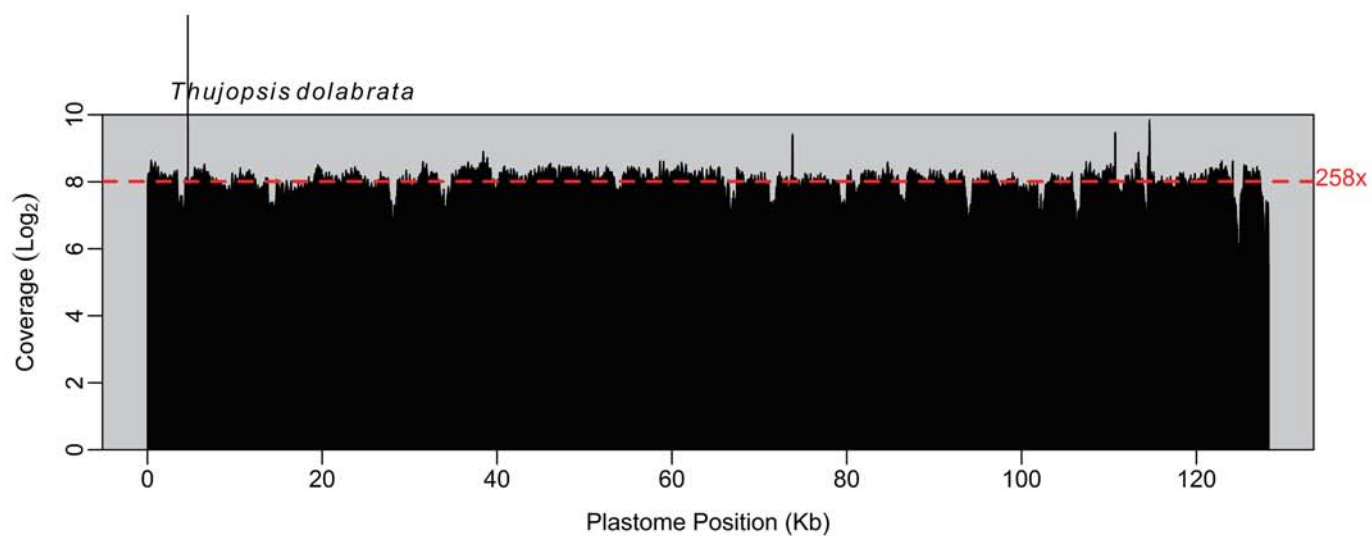
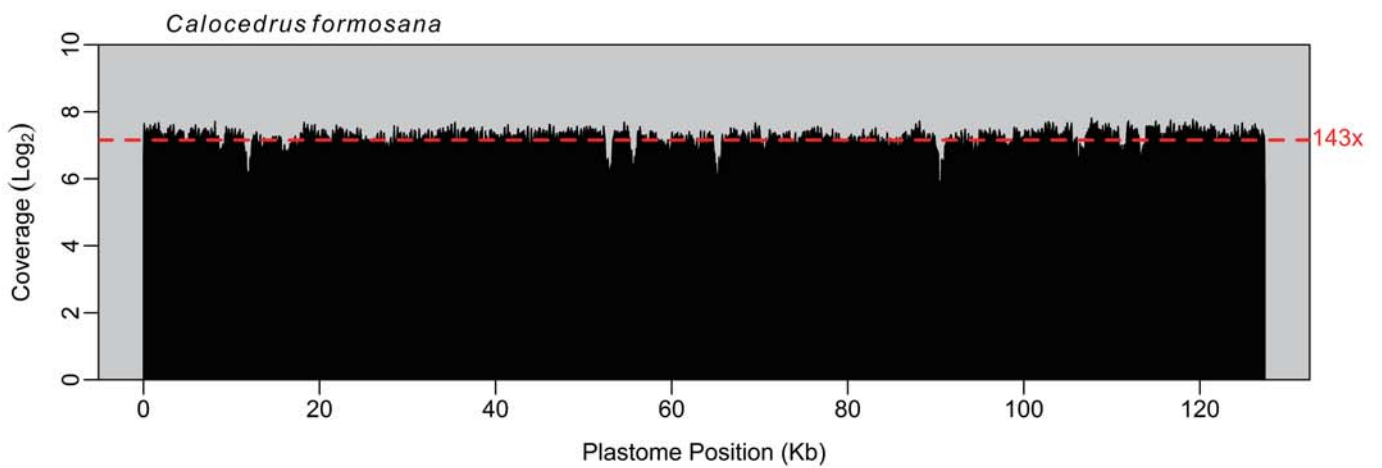
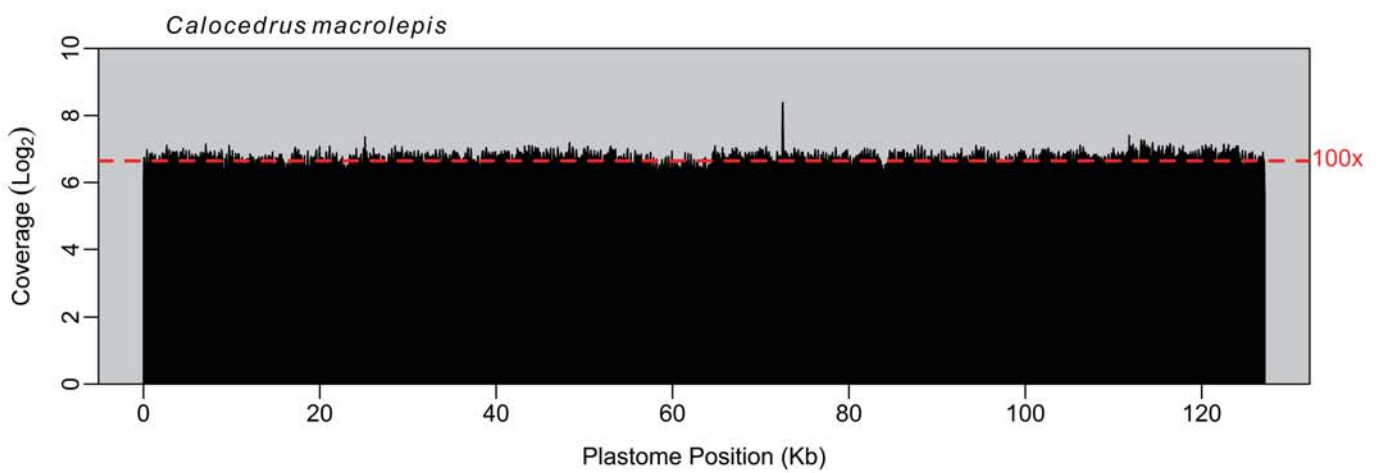
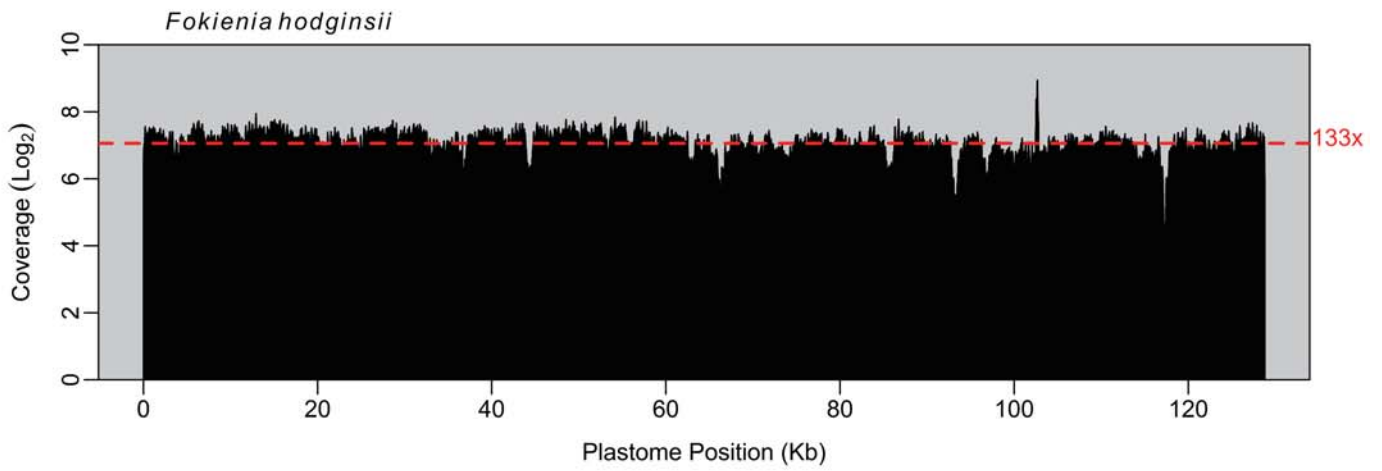
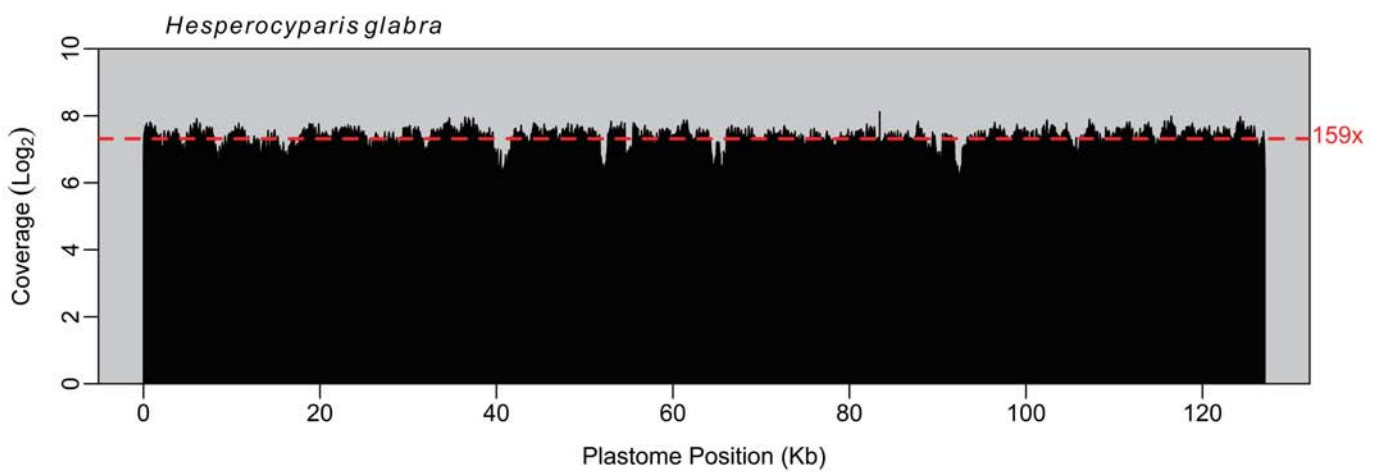
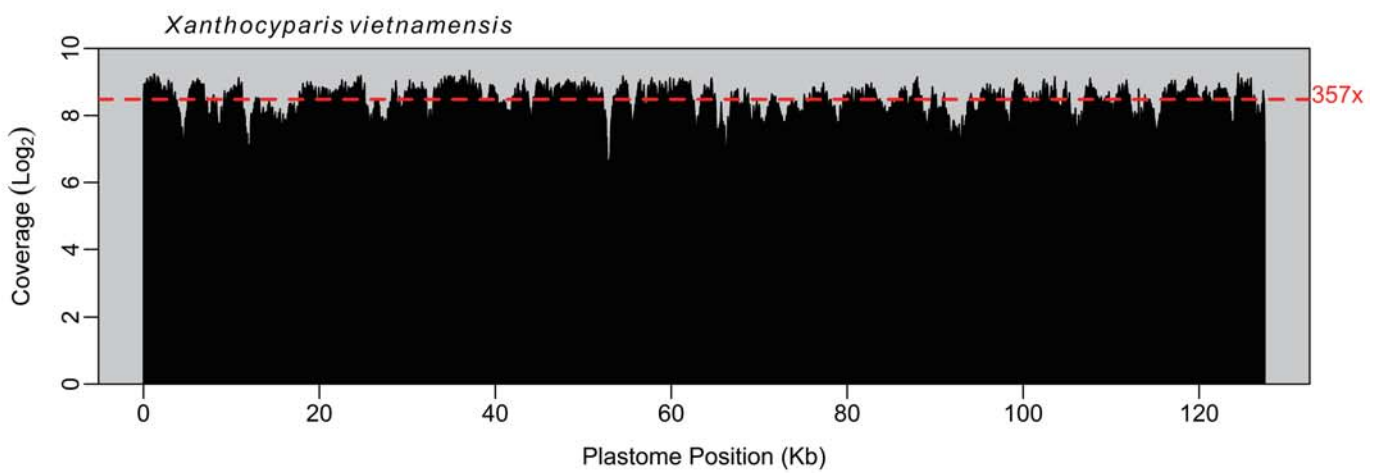
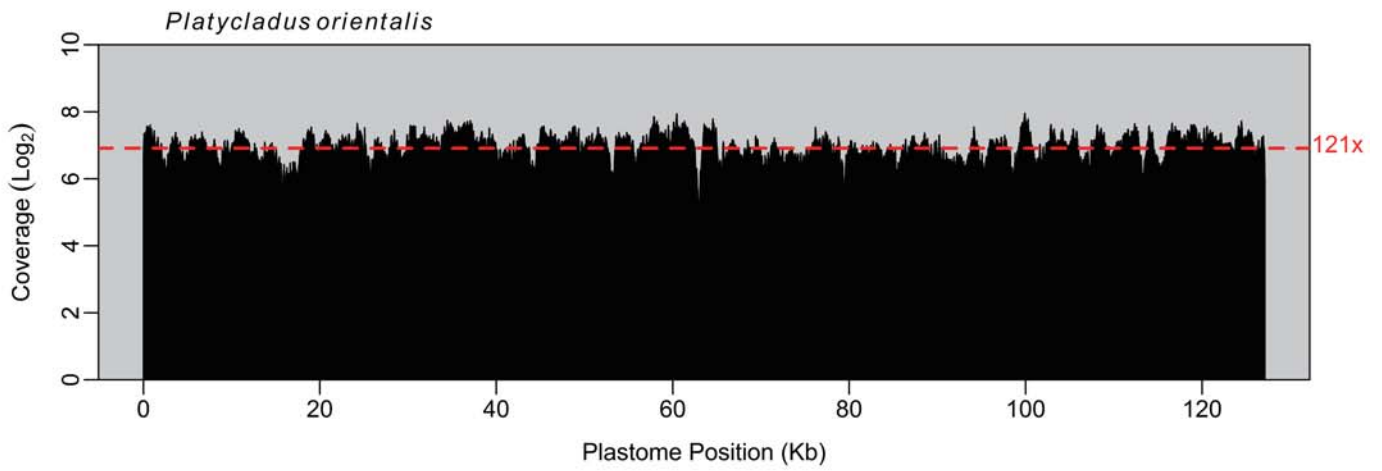




Figure S2









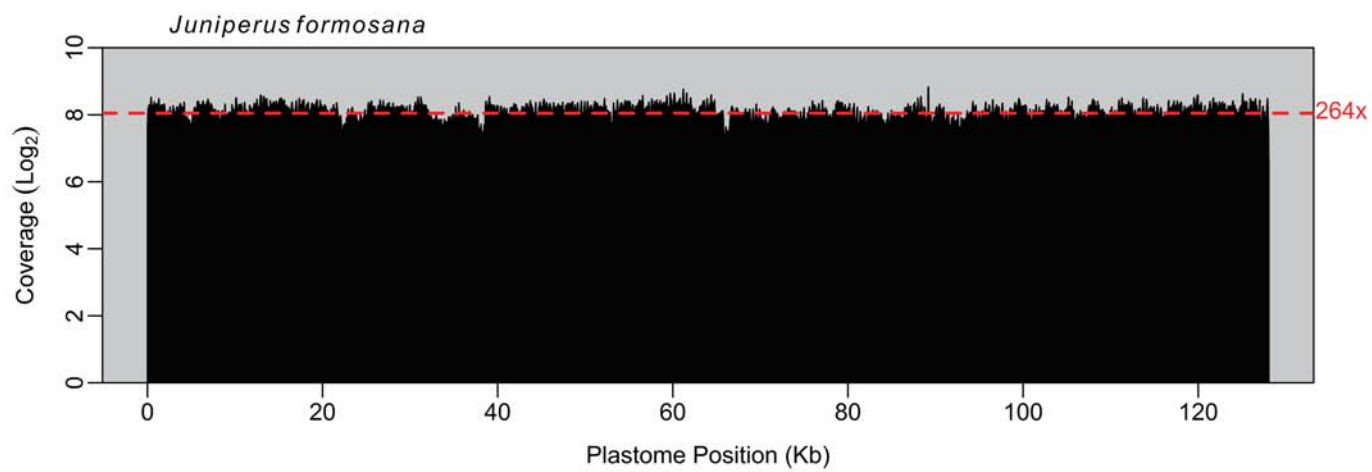


Figure S3

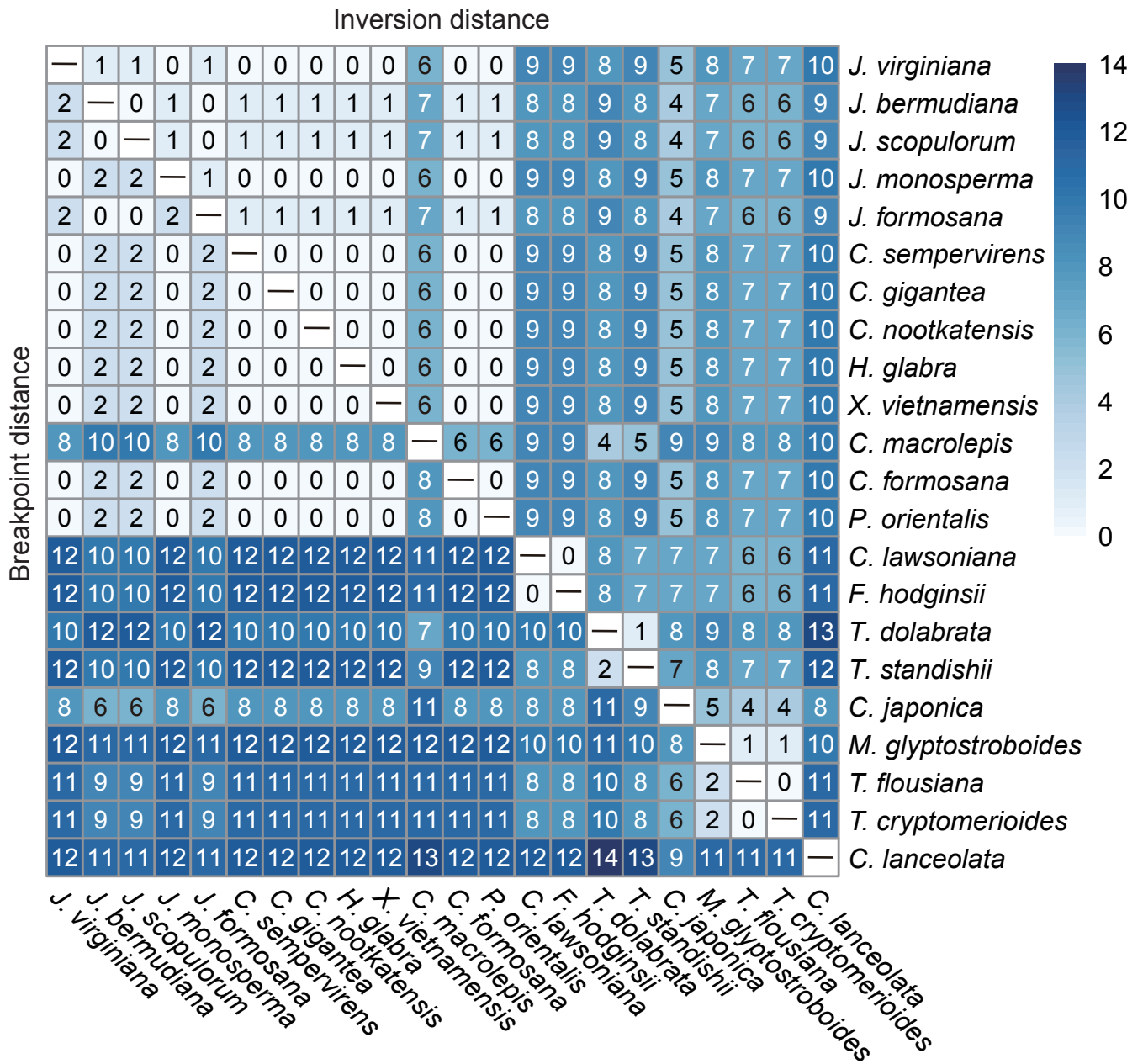


Figure S4

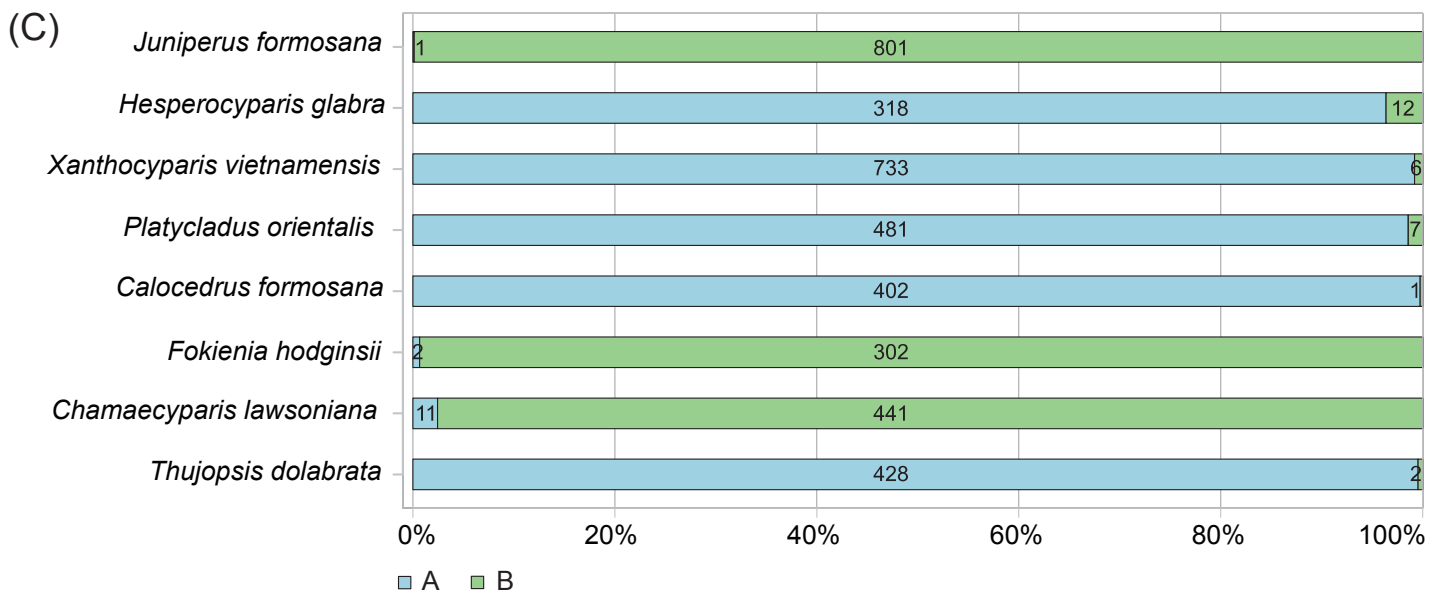
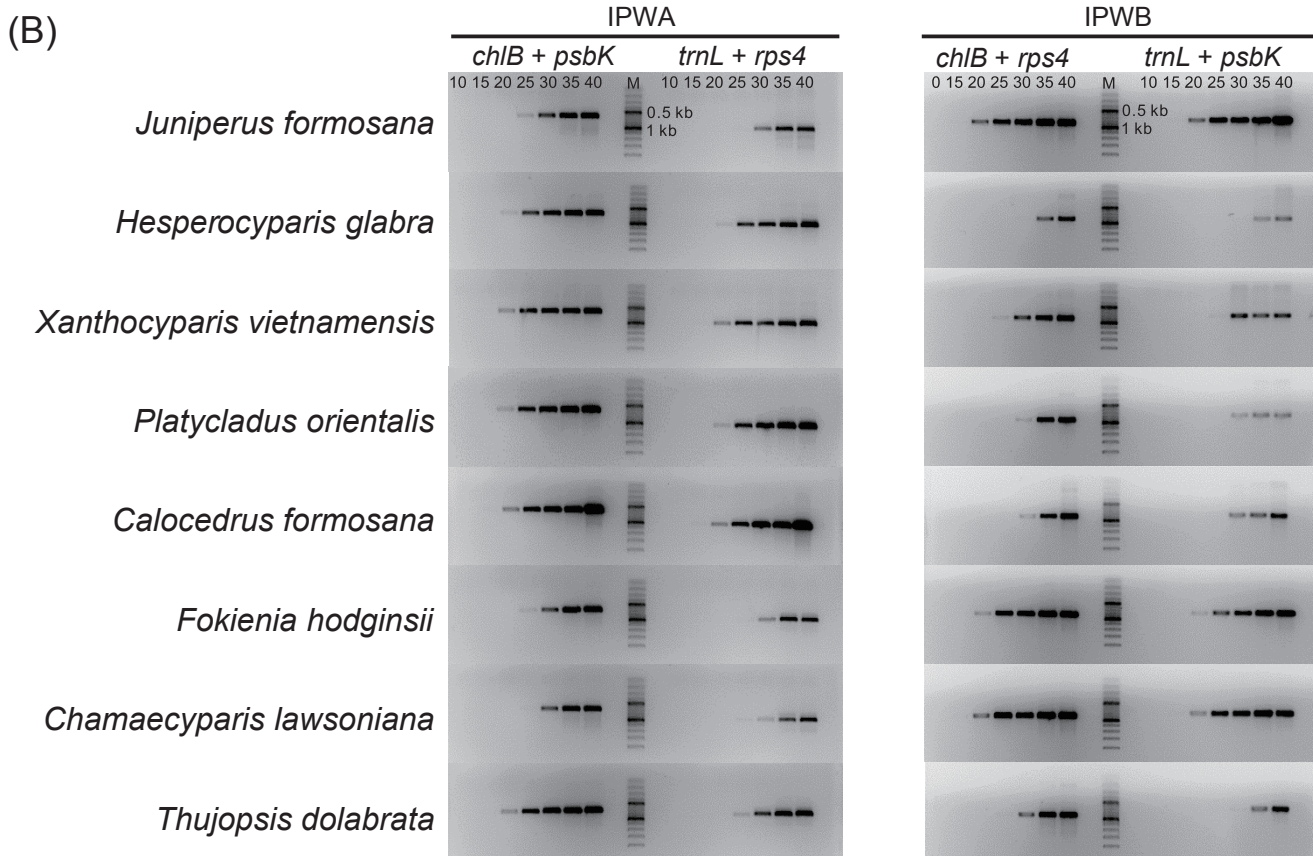
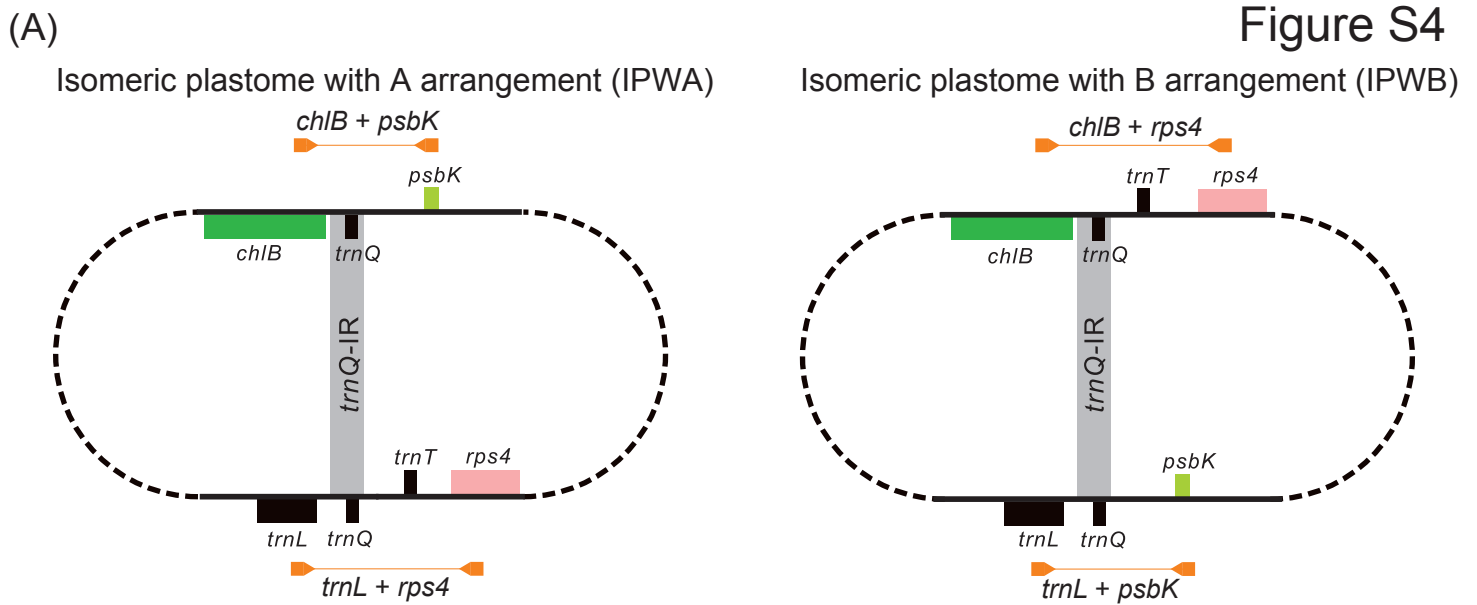
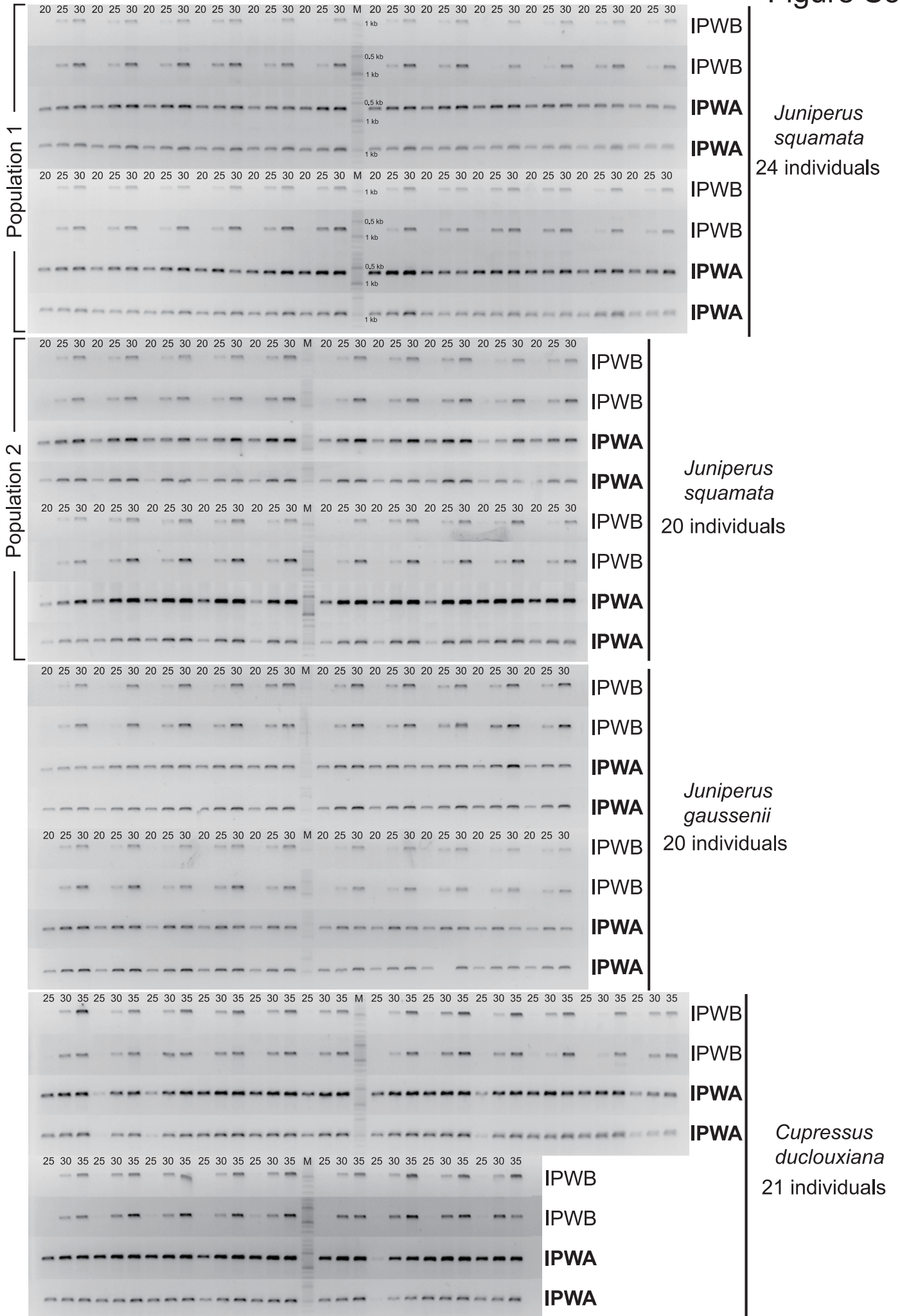
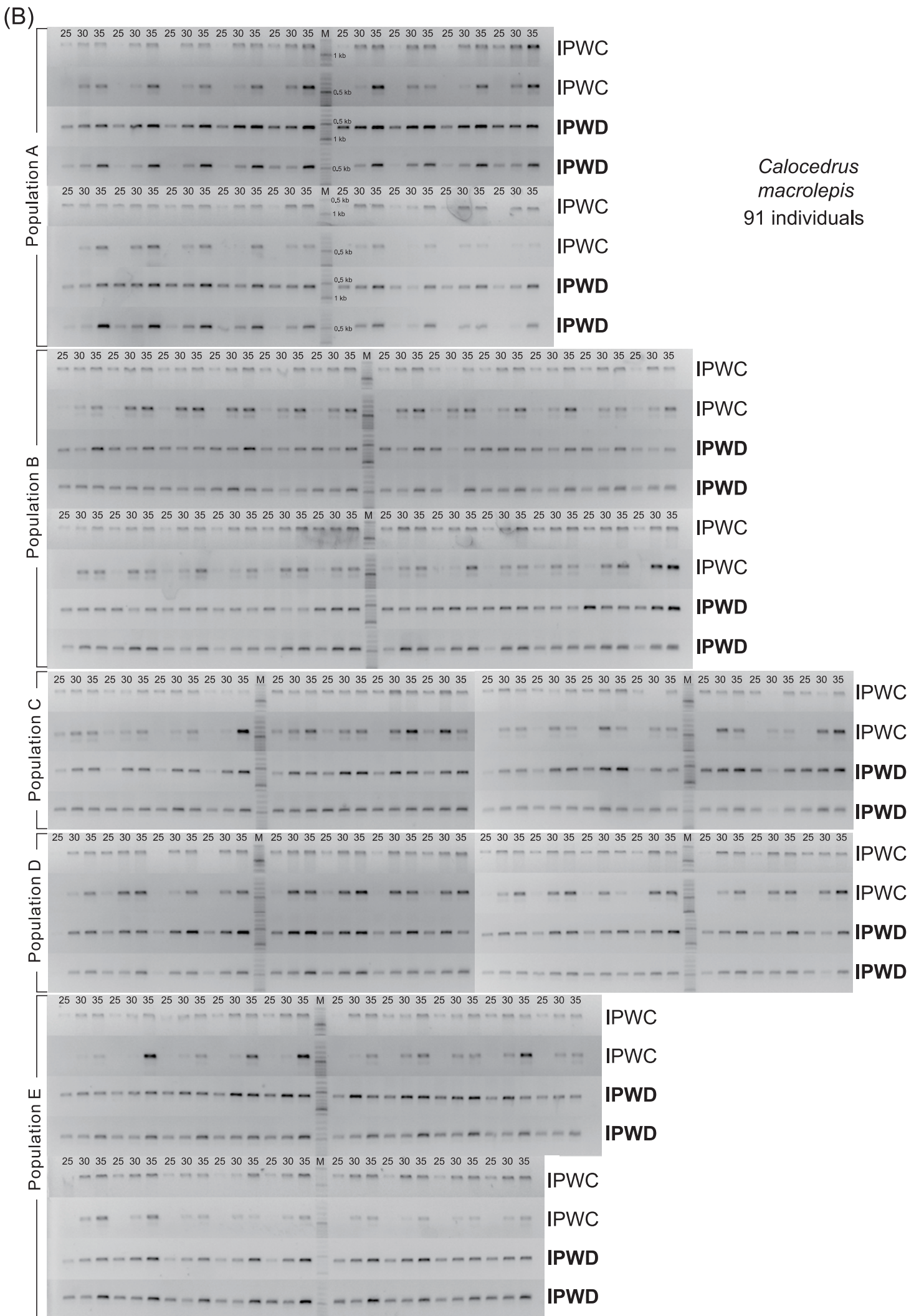


Figure S5

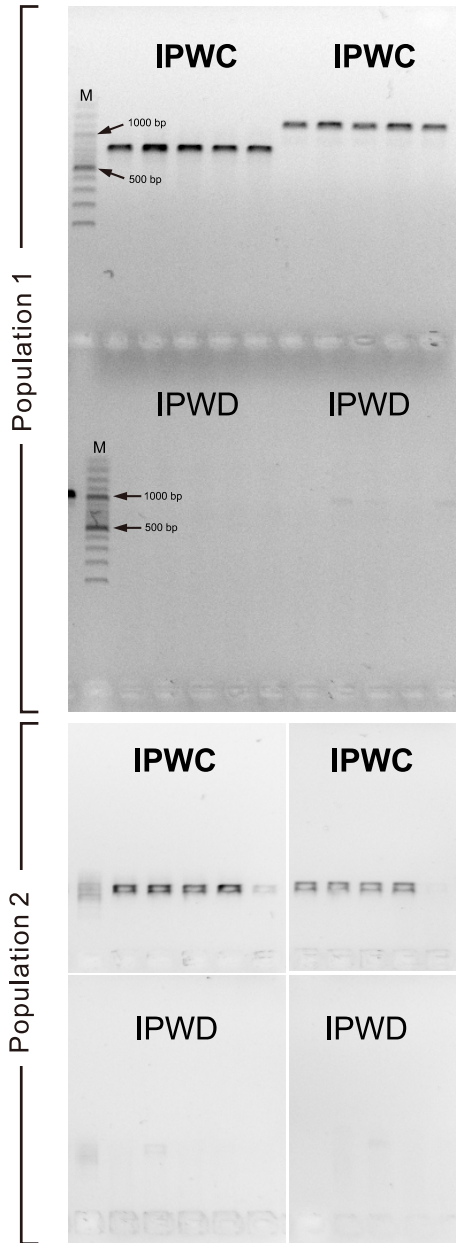
(A)







(C)



*Calocedrus formosana*  
10 individuals

Table S1. Collection information for plant materials

Species	Collection locality	No. of individuals	Collection no.
<i>Calocedrus formosana</i>	Hsinchu County, Taiwan	1	Yi16045
	Taichung Heping District, Taiwan	5	Yi16230
	Hsinchu County, Taiwan	5	Yi16231
<i>Calocedrus macrolepis</i>	Kunming Botanic Garden, Yunnan, China	1	Yi16046
	Yuanjiang county, Yunnan, China	18	Yi12379 (1-18)
	Bawangling Nature Reserve, Hainan, China	19	Yi16047 (1-19)
	Mojiang county, Yunnan, China	24	Yi16048 (1-24)
	Rongjiang county, Guizhou, China	15	Yi13652 (1-15)
	Rongjiang county, Guizhou, China	15	Yi16049 (1-15)
	Kunming Botanic Garden, Yunnan, China	1	Yi16050
<i>Chamaecyparis lawsoniana</i>	Kunming Botanic Garden, Yunnan, China	1	Yi16050
<i>Cupressus duclouxiana</i>	Changchong Mountain, Yunnan, China	21	Yi16051 (1-21)
<i>Fokienia hodginsii</i>	Kunming Botanic Garden, Yunnan, China	1	Yi16052
<i>Hesperocyparis glabra</i>	Kunming Botanic Garden, Yunnan, China	1	Yi16053
<i>Juniperus formosana</i>	Kunming Botanic Garden, Yunnan, China	1	Yi16054
<i>Juniperus gaussenii</i>	Luquan county, Yunnan, China	20	Yi16055 (1-20)
<i>Juniperus squamata</i>	Luquan county, Yunnan, China	24	Yi16056 (1-24)
	Luquan county, Yunnan, China	20	Yi16057 (1-20)
	Kunming Botanic Garden, Yunnan, China	1	Yi16058
<i>Platycladus orientalis</i>	Kunming Botanic Garden, Yunnan, China	1	Yi16058
<i>Thuja standishii</i>	Kunming Botanic Garden, Yunnan, China	1	Yi16059
<i>Thujopsis dolabrata</i>	Kunming Botanic Garden, Yunnan, China	1	Yi16060
<i>Xanthocyparis vietnamensis</i>	Kunming Botanic Garden, Yunnan, China	1	Yi16061

Table S2. Taxa sampled in this study

Subfamily	Species	Accession no.
Cupressoideae	<i>Callitropsis nootkatensis</i> (D. Don) Oerst. Ex D. P. Little	NC_026295
	<i>Calocedrus formosana</i> (Florin) Florin	KX832620
	<i>Calocedrus macrolepis</i> Kurz	KX832621
	<i>Chamaecyparis lawsoniana</i> (A. Murray bis) Parl.	KX832622
	<i>Cupressus gigantea</i> W.C.Cheng & L.K.Fu	NC_028155
	<i>Cupressus sempervirens</i> L.	NC_026296
	<i>Fokienia hodginsii</i> (Dunn) A. Henry & H H. Thomas	KX832623
	<i>Hesperocyparis glabra</i> (Sudw.) Bartel	KX832624
	<i>Juniperus bermudiana</i> L.	NC_024021
	<i>Juniperus formosana</i> Hayata	KX832625
	<i>Juniperus monosperma</i> (Engelm.) Sarg.	NC_024022
	<i>Juniperus scopulorum</i> Sarg.	NC_024023
	<i>Juniperus virginiana</i> L.	NC_024024
	<i>Platycladus orientalis</i> (L.) Franco	KX832626
	<i>Thuja standishii</i> (Gordon) Carrière	KX832627
	<i>Thujopsis dolabrata</i> (L.f.) Siebold & Zucc.	KX832628
	<i>Xanthocyparis vietnamensis</i> Farjón & T. H. Nguyen	KX832629
Cunninghamioideae	<i>Cunninghamia lanceolata</i> (Lamb.) Hook	NC_021437
Sequoioideae	<i>Metasequoia glyptostroboides</i> Hu & W. C. Cheng	NC_027423
Taiwanoideae	<i>Taiwania cryptomerioides</i> Hayata	NC_016065
	<i>Taiwania flousiana</i> Gaussen	NC_021441
Taxodioideae	<i>Cryptomeria japonica</i> (Thunb. Ex L. f.) D. Don	NC_010548



Table S3. List of the 73 protein-coding genes applied in the phylogenetic reconstruction

Gene groups	Gene function and number	Genes
I	Gene expression (19) <i>rpl</i> -, <i>rpo</i> - and <i>rps</i> - genes	<i>rpl14, rpl16, rpl2, rpl20, rpl23, rpl33, rpl36, rpoA, rpoB, rpoC1, rps2, rps4, rps7, rps8, rps11, rps12, rps14, rps15, rps19</i>
II	Photosynthetic apparatus (30) <i>pet</i> -, <i>psa</i> -, <i>psb</i> - and <i>ycf</i> - genes	<i>rbcL, petA, petB, petD, petG, petL, petN, psaA, psaB, psaC, psaI, psaJ, psaM, psbA, psbB, psbC, psbD, psbE, psbF, psbH, psbI, psbJ, psbK, psbL, psbM, psbN, psbT, psbZ, ycf3, ycf4</i>
III	Photosynthetic metabolism (21) <i>atp</i> -, <i>ndh</i> - and <i>chl</i> - genes	<i>atpA, atpB, atpE, atpF, atpH, atpI, ndhA, ndhB, ndhC, ndhD, ndhE, ndhF, ndhG, ndhH, ndhI, ndhJ, ndhK, infA, chlB, chlL, chlN</i>
IV	Miscellaneous (3)	<i>ccsA, cemA, matK</i>

Table S4. The permutation of number-coded locally collinear blocks (LCBs) for each plastome

Species	LCBs
<i>Juniperus monosperma</i>	1,-2,12,11,3,4,5,8,-10,-9,13,-7,-6,14,15
<i>Juniperus formosana</i>	1,2,12,11,3,4,5,8,-10,-9,13,-7,-6,14,15
<i>Cupressus sempervirens</i>	1,-2,12,11,3,4,5,8,-10,-9,13,-7,-6,14,15
<i>Hesperocyparis glabra</i>	1,-2,12,11,3,4,5,8,-10,-9,13,-7,-6,14,15
<i>Callitropsis nootkatensis</i>	1,-2,12,11,3,4,5,8,-10,-9,13,-7,-6,14,15
<i>Xanthocyparis vietnamensis</i>	1,-2,12,11,3,4,5,8,-10,-9,13,-7,-6,14,15
<i>Platyclusus orientalis</i>	1,-2,12,11,3,4,5,8,-10,-9,13,-7,-6,14,15
<i>Calocedrus formosana</i>	1,-2,12,11,3,4,5,8,-10,-9,13,-7,-6,14,15
<i>Calocedrus macrolepis</i>	1,-2,12,11,3,4,6,7,-13,9,10,-8,-5,14,15
<i>Fokienia hodginsii</i>	1,2,12,11,3,4,5,6,7,-13,-10,-14,8,9,15
<i>Chamaecyparis lawsoniana</i>	1,2,12,11,3,4,5,6,7,-13,-10,-14,8,9,15
<i>Thuja standishii</i>	1,2,12,11,3,4,5,6,7,-14,8,-10,-9,13,15
<i>Thujopsis dolabrata</i>	1,-2,12,11,3,4,5,6,7,-14,8,-10,-9,13,15
<i>Cryptomeria japonica</i>	1,2,12,11,3,4,5,8,9,10,-6,-7,13,14,15
<i>Metasequoia glyptostroboides</i>	1,-2,12,11,3,4,5,6,7,8,9,10,13,14,15
<i>Taiwania flousiana</i>	1,2,12,11,3,4,5,6,7,8,9,10,13,14,15
<i>Taiwania cryptomerioides</i>	1,2,12,11,3,4,5,6,7,8,9,10,13,14,15
<i>Cunninghamia lanceolata</i>	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15

Species are arranged by their divergence in the phylogenetic tree shown in Fig. 1.

Table S5. Primers used in this study

Primer name	Primer sequence
<i>chlB</i>	5'-GTTCCAATATGAGCAGGACCAG-3'
<i>rps4</i>	5'-CCTGGTAAAGTTTTGABACG-3'
<i>psbK</i>	5'-CAAATGAAAAGCGGCATCG-3'
<i>trnL-UAA</i>	5'-GTTTCCATACCAAGGCTC-3'
<i>ycf2</i>	5'-TTGCTCAAGGGAGAAAGGGAAA-3'
<i>rpl23</i>	5'-ATCTTACGCAACGGATCATTCT-3'
<i>trnL-CAA</i>	5'-CTTGATGGTGGGAATGGTAGACA-3'
<i>accD</i>	5'-GAAAAGTATAGGATAATGAAT-3'

Table S6. Comparisons of specific characteristics of *trnQ*-IR in ten newly sequenced plastomes of Cupressoideae

Species	Similarity	Alignment length	True length (L)	True length (R)	Start_1	End_1	Start_2	End_2	Containing gene	Inversion length (bp)
<i>Juniperus formosana</i>	93.91	279	278	267	6,760	7,037	43,270	43,004	<i>trnQ-UUG</i>	35,967
<i>Hesperocypris glabra</i>	99.26	270	270	269	6,610	6,879	42,786	42,518	<i>trnQ-UUG</i>	35,639
<i>Xanthocypris vietnamensis</i>	99.25	266	266	266	6,591	6,856	43,269	43,004	<i>trnQ-UUG</i>	36,148
<i>Platycladus orientalis</i>	95.82	239	236	238	6,636	6,871	43,299	43,062	<i>trnQ-UUG</i>	36,191
<i>Calocedrus formosana</i>	98.79	248	248	248	6,777	7,024	43,266	43,019	<i>trnQ-UUG</i>	35,995
<i>Calocedrus macrolepis</i>	99.19	248	248	248	6,790	7,037	43,306	43,059	<i>trnQ-UUG</i>	36,022
<i>Fokienia hodginsii</i>	99.57	233	233	233	6,765	6,997	43,533	43,301	<i>trnQ-UUG</i>	36,304
<i>Chamaecypris lawsoniana</i>	98.80	249	248	249	6,742	6,989	43,480	43,232	<i>trnQ-UUG</i>	36,243
<i>Thuja standishii</i>	88.14	194	194	178	7,593	7,786	45,435	45,258	<i>trnQ-UUG</i>	37,472
<i>Thujopsis dolabrata</i>	100.00	196	196	196	6,995	7,190	44,516	44,321	<i>trnQ-UUG</i>	37,131

Species are arranged by their divergence in the phylogenetic tree shown in Fig. 1.