

**Table S1.** List of estimated chloroplast genes of *Larix kaempferi*.

Type and Group of Genes	No. Of Genes	Name of Gene
CDS		
Photosystem-related genes		
Subunits of photosystem I	5	<i>psaA</i> <i>psaB</i> <i>psaC</i> <i>psaI</i> <i>psaJ</i>
Subunits of photosystem II	16	<i>psbA</i> <i>psbB</i> <i>psbC</i> <i>psbD</i> <i>psbE</i> <i>psbF</i> <i>psbH</i> <i>psbI</i> (×2) <i>psbJ</i> <i>psbK</i> <i>psbL</i> <i>psbM</i> <i>psbN</i> <i>psbT</i> <i>psbZ</i>
Cytochrome b/f complex	6	<i>petA</i> <i>petB</i> * <i>petD</i> * <i>petG</i> <i>petL</i> <i>petN</i>
ATP synthase genes	6	<i>atpA</i> <i>atpB</i> <i>atpE</i> <i>atpF</i> * <i>atpH</i> <i>atpI</i>
RubisCO large subunit	1	<i>rbcL</i>
Chlorophyll biosynthesis	3	<i>chlB</i> <i>chlL</i> <i>chlN</i>
Photosystem assembly/stability factors	2	<i>ycf3</i> * <i>ycf4</i>
Transcription and translation-related genes		
DNA dependent RNA polymerase	4	<i>rpoA</i> <i>rpoB</i> <i>rpoC1</i> * <i>rpoC2</i>
Translational initiation factor	1	<i>infA</i>
Ribosomal protein genes		
Small subunit of ribosomal proteins	11	<i>rps2</i> <i>rps3</i> <i>rps4</i> <i>rps7</i> <i>rps8</i>

	(SSU)		<i>rps11</i>	<i>rps12*</i>	<i>rps14</i>	<i>rps15</i>	<i>rps18</i>
			<i>rps19</i>				
Other protein genes	Large subunit of ribosomal proteins (LSU)	9	<i>rpl2*</i>	<i>rpl14</i>	<i>rpl16*</i>	<i>rpl20</i>	<i>rpl22</i>
			<i>rpl23</i>	<i>rpl32</i>	<i>rpl33</i>	<i>rpl36</i>	
	Maturase	1	<i>matK</i>				
	ATP-dependent protease subunit	1	<i>clpP</i>				
	Envelope membrane protein	1	<i>cemA</i>				
	Acetyl-CoA carboxylase	1	<i>accD</i>				
	c-type cytochrome synthesis protein	1	<i>ccsA</i>				
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RNA							
	tRNA						
	Transfer RNA genes	35	<i>trnA-UGC*</i>	<i>trnC-GCA</i>	<i>trnD-GUC</i>	<i>trnE-UUC</i>	<i>trnF-GAA</i>
			<i>trnfM-CAU</i>	<i>trnG-GCC</i>	<i>trnG-UCC*</i>	<i>trnH-GUG</i>	<i>trnI-CAU (×2)</i>
			<i>trnI-GAU*</i>	<i>trnK-UUU*</i>	<i>trnL-CAA</i>	<i>trnL-UAA*</i>	<i>trnL-UAG</i>
			<i>trnM-CAU</i>	<i>trnN-GUU</i>	<i>trnP-GGG</i>	<i>trnP-UGG</i>	<i>trnQ-UUG</i>
			<i>trnR-ACG</i>	<i>trnR-CCG</i>	<i>trnR-UCU</i>	<i>trnS-GCU (×2)</i>	<i>trnS-GGA</i>
			<i>trnS-UGA</i>	<i>trnT-GGU (×2)</i>	<i>trnT-UGU</i>	<i>trnV-GAC</i>	<i>trnV-UAC*</i>
			<i>trnW-CCA</i>	<i>trnY-GUA</i>			
	rRNA						
	Ribosomal RNA genes	4	<i>rrn4.5</i>	<i>rrn5</i>	<i>rrn16</i>	<i>rrn23</i>	
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Unknown / pseudo							
	Hypothetical conserved reading frames						
	Unknown genes	3	<i>ycf1</i>	<i>ycf2</i>	<i>ycf12</i>		

## Pseudogenes

Pseudogenes	8	<i>ψ-ycf2</i> <i>ψ-ndhH</i>	<i>ψ-ycf68</i> <i>ψ-ndhK</i>	<i>ψ-ndhB</i> 3'end of <i>psbA</i>	<i>ψ-ndhC</i>	<i>ψ-ndhD</i>
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Genes with \* have intron(s). Duplicated genes are shown in parentheses.