

SUPPLEMENTAL INFORMATION

**Novel insights into plant genome evolution and adaptation as revealed
through transposable elements and non-coding RNAs in conifers**

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Table S1 Details of sequenced tree genomes (as of February 2019)

Species	Family	Common name	2n	References	URLs (genomes and other sequences)
<i>Actinidia chinensis</i>	Actinidiaceae	Kiwifruit	58	[1, 2]	http://bioinfo.bti.cornell.edu/cgi-bin/kiwi/download.cgi
<i>Aquilaria agallocha</i>	Thymelaeaceae	Agarwood	16	[3]	
<i>Azadirachta indica</i>	Meliaceae	Neem tree	30	[4]	
<i>Betula nana</i>	Betulaceae	Dwarf birch	28	[5]	http://www.birchgenome.org/data
<i>Castanea mollissima</i>	Fagaceae	Chinese chestnut	24	[6]	http://www.hardwoodgenomics.org/
<i>Carica papaya</i>	Caricaceae	Papaya	18	[7]	ftp://ftp.jgi-psf.org/pub/compngen/phytozome/v9.0/Cpapaya/assembly/Cpapaya_113.fa.gz
<i>Citrus clementina</i>	Rutaceae	Clementine mandarin	18	[8]	https://www.citrusgenomedb.org/organism/Citrus/clementina
<i>Citrus sinensis</i>	Rutaceae	Sweet orange	18	[8, 9]	http://citrus.hzau.edu.cn/orange/download/csi.chromosome.fa.tar.gz
<i>Coffea canephora</i>	Rubiaceae	Coffee	22	[10]	http://coffee-genome.org/coffeacanephora
<i>Elaeis guineensis</i>	Arecaceae	African oil palm	32	[11]	https://bioinformatics.psb.ugent.be/plaza/versions/plaza_v4_monocots/organism/view/Elaeis+guineensis
<i>Eucalyptus camaldulensis</i>	Myrtaceae	Red river gum	22	[12]	http://www.kazusa.or.jp/eucaly/
<i>Eucalyptus grandis</i>	Myrtaceae	Flooded gum	22	[13, 14]	https://eucgenie.org/
<i>Fraxinus excelsior</i>	Oleaceae	European ash	46	[15]	http://www.ashgenome.org/
<i>Hevea brasiliensis</i>	Euphorbiaceae	Pará rubber tree	36	[16-18]	http://www4a.biotec.or.th/rubber/
<i>Jatropha curcas</i>	Euphorbiaceae	Barbados nut	22	[19]	ftp://ftp.kazusa.or.jp/pub/jatropha/JAT_r4.5.genome.gz
<i>Juglans regia</i>	Fagaceae	Persian walnut	32	[20]	https://www.hardwoodgenomics.org/english-walnut-genome
<i>Malus domestica</i>	Rosaceae	Apple	34	[21, 22]	ftp://ftp.jgi-psf.org/pub/compngen/phytozome/v9.0/Mdomestica/assembly/Mdomestica_196.fa.gz

<i>Morus notabilis</i>	Moraceae	Mulberry	14	[23]	https://morus.swu.edu.cn/
<i>Musa acuminata</i> <i>Musa balbisiana</i>	Musaceae	Banana (A/ B genome)	22	[24, 25]	http://www.promusa.org/Acuminata+genome
<i>Olea europaea</i>	Oleaceae	Olive tree	46	[26]	http://olivegenome.org/
<i>Phoenix dactylifera</i>	Arecaceae	Date palm	36	[27, 28]	https://www.genome.jp/kegg-bin/show_organism?org=pda
<i>Picea abies</i>	Pinaceae	Norway spruce	24	[29]	ftp://ftp.ncbi.nlm.nih.gov/genomes/all/GCA/900/067/695/
<i>Picea glauca</i>	Pinaceae	White spruce	24	[30, 31]	ftp://ftp.ncbi.nlm.nih.gov/genomes/all/GCA/000/411/955/
<i>Pinus lambertiana</i>	Pinaceae	Sugar pine	24	[32]	https://www.conifers.org/pi/Pinus_lambertiana.php
<i>Pinus taeda</i>	Pinaceae	Loblolly pine	24	[33-35]	ftp://ftp.ncbi.nlm.nih.gov/genomes/all/GCA/000/404/065/
<i>Populus euphratica</i>	Salicaceae	Desert poplar	38	[36]	ftp://ftp.ncbi.nlm.nih.gov/genomes/Populus_euphratica
<i>Populus deltoides</i>	Salicaceae	Eastern cottonwood	38		https://phytozome.jgi.doe.gov/pz/portal.html#info?alias=Org_PdeltoidesWV94_er
<i>Populus tremula</i>	Salicaceae	European aspen	38	[37]	http://popgenie.org
<i>Populus tremuloides</i>	Salicaceae	Quaking aspen	38	[37]	http://popgenie.org
<i>Populus trichocarpa</i>	Salicaceae	Black cottonwood	38	[38]	ftp://ftp.jgi-psf.org/pub/JGI_data/phytozome/v7.0/Ptrichocarpa/assembly/Ptrichocarpa_156.fa.gz
<i>Prunus mume</i>	Rosaceae	Mei	16	[39]	https://www.genome.jp/kegg-bin/show_organism?org=pmum
<i>Prunus persica</i>	Rosaceae	Peach	16	[40]	ftp://ftp.jgi-psf.org/pub/JGI_data/phytozome/v7.0/Ppersica/assembly/Ppersica_139.fa.gz
<i>Pyrus bretschneideri</i>	Rosaceae	Chinese pear	34	[41]	https://bioinformatics.psb.ugent.be/plaza/versions/plaza_v4_dicots/organism/view/Pyrus+bretschneideri

<i>Pyrus communis</i>	Rosaceae	European pear	34	[42]	https://www.rosaceae.org/organism/Pyrus/communis
<i>Quercus robur</i>	Fagaceae	Pedunculate oak	24	[43]	https://www.hardwoodgenomics.org/organism/Quercus/robur
<i>Rhizophora apiculata</i>	Rhizophoraceae	Mangrove	36	[44]	http://evolution.sysu.edu.cn/Sequences.html
<i>Salix purpurea</i>	Salicaceae	Purple osier willow	38		https://phytozome.jgi.doe.gov/pz/portal.html#info?alias=Org_Spurpurea
<i>Salix suchowensis</i>	Salicaceae	Purple willow	38	[45]	https://gold.jgi.doe.gov/project?id=96061
<i>Theobroma cacao</i>	Malvaceae	Cacao	20	[46, 47]	http://cocoagendb.cirad.fr/gbrowse/download/Theobroma_cacao_v1.0.pseudomolecule.fna.tar.gz
<i>Vitis vinifera</i>	Vitaceae	Grapevine	38	[48, 49]	ftp://ftp.jgi-psf.org/pub/comp/gen/phytozome/v9.0/Vvinifera/assembly/Vvinifera_145.fa.gz
<i>Ziziphus jujuba</i>	Rhamnaceae	Jujube	24	[50]	https://www.genome.jp/kegg-bin/show_organism?org=zju

Note S1 Source of botanical illustrations used in Figure 1

Abies, <https://archive.org/details/traitdesarbres03moui/page/76>; [51]

Cedrus, <http://biodiversitylibrary.org/page/31681271#page/138/mode/1up>

Juniperus, https://commons.wikimedia.org/wiki/File:Juniperus_communis_cones.jpg

Larix, https://commons.wikimedia.org/wiki/File:Illustration_Larix_decudua0.jpg

Picea, https://commons.wikimedia.org/wiki/File:Picea_abies_-_K%C3%B6hler%E2%80%93Medizinal-Pflanzen-105.jpg

Pinus, https://commons.wikimedia.org/wiki/File:Pinus_massoniana_SZ114.png

Pseudotsuga, <http://archive.org/stream/traitdesarbres03moui#page/81/mode/1up>; [51]

Thuja, <https://commons.wikimedia.org/wiki/File:Thuja-orientalis.jpg>

Tsuga, https://commons.wikimedia.org/wiki/Tsuga_canadensis

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