

Supplemental Table S1. List of the representative public accessible ornamental plant genomes and their database construction status.

Scientific name	cultivars	Sequencing method	Common name	Taxonomy	Type	DB-url	Year	Size(Mb)	Journal	Reference
<i>Chrysanthemum lavandulifolium</i>	wild population	Pacbio+Nanopore	Daisy	Asteraceae/Chrysanthemum	Perennial herbaceous flowers	ncbi.nlm.nih.gov	2022	2060	Horticulture Research	The <i>chrysanthemum lavandulifolium</i> genome and the molecular mechanism underlying diverse capitulum types
<i>Chrysanthemum nankingense</i>		Illumina+Nanopore	Juhuanao	Asteraceae/Chrysanthemum	Perennial herbaceous flowers	ncbi.nlm.nih.gov; www.amwayabrc.com	2018	2527	Molecular Plant	The <i>Chrysanthemum nankingense</i> Genome Provides Insights into the Evolution and Diversification of Chrysanthemum Flowers and Medicinal Traits
<i>Dendrobium catenatum</i>	wild population	Illumina	The Chained Dendrobium	Orchidaceae/Dendrobium	Perennial herbaceous flowers	ncbi.nlm.nih.gov; herbalplant.ynau.edu.cn ; orchidbase.itps.ncku.edu.tw/est/home2012.aspx	2016	1104.26	Scientific Reports	The <i>Dendrobium catenatum</i> Lindl. genome sequence provides insights into polysaccharide synthase, floral development and adaptive evolution
<i>Dendrobium officinale</i>	GREEN	Illumina+PacBio		Orchidaceae/Dendrobium	Perennial herbaceous flowers	ncbi.nlm.nih.gov; http://202.203.187.112/herbalplant	2015	1350	Molecular Plant	The Genome of <i>Dendrobium officinale</i> Illuminates the Biology of the Important Traditional Chinese Orchid Herb
<i>Helianthus annuus</i>		PacBio	Sunflower	Asteraceae/Helianthus	Annual herbaceous flowers	ncbi.nlm.nih.gov; sunflowergenome.org/	2017	3010	Nature	The sunflower genome provides insights into oil metabolism, flowering and Asterid evolution
<i>Ipomoea nil</i>	Tokyo Kokei Standard	Illumina+PacBio+Sanger	picotee morning glory, ivy morning glory, Japanese morning glory	Convolvulaceae/Ipomoea	Annual herbaceous flowers	ncbi.nlm.nih.gov; viewer.shigen.info/asagao/ddbj.nig.ac.jp ;	2016	736.4	Nature communication	Genome sequence and analysis of the Japanese morning glory <i>Ipomoea nil</i>
<i>Lavandula angustifolia</i>	Maillette	Illumina	Lavender, true lavender, English lavender	Lamiaceae/Lavandula	Flowering shrubs	ncbi.nlm.nih.gov;	2019	870	Planta	De novo sequencing of the <i>Lavandula angustifolia</i> genome reveals highly duplicated and optimized features for essential oil production
<i>Nelumbo nucifera</i>	China Antique	Illumina+454	Sacred lotus	Nelumbonaceae/Nelumbo	Perennial herbaceous flowers	ncbi.nlm.nih.gov; bioinformatics.psb.ugent.be/plaza ; http://nelumbo.biocloud.net	2013	804	Genome Biology	Genome of the long-living sacred lotus (<i>Nelumbo nucifera</i> Gaertn.)
		Illumina	Sacred lotus	Nelumbonaceae/Nelumbo	Perennial herbaceous flowers	ncbi.nlm.nih.gov; ddbj.nig.ac.jp ; plants.ensembl.org	2013	792	The Plant Journal	The sacred lotus genome provides insights into the evolution of flowering plants
<i>Osmanthus fragrans</i>	<i>O. fragrans</i> var. rixianggui	Illumina+PacBio	Sweet osmanthus	Oleaceae/Osmanthus	Flowering trees/Flowering shrubs	ncbi.nlm.nih.gov; sweetolive.eplant.org	2018	733.5	Horticulture Research	The chromosome-level quality genome provides insights into the evolution of the biosynthesis genes for aroma compounds of <i>Osmanthus fragrans</i>
<i>Nymphaea colorata</i>		Illumina+PacBio	Blue Pigmy	Nymphaeaceae/Nymphaea	Perennial herbaceous flowers	ncbi.nlm.nih.gov; bigd.big.ac.cn ; waterlily.eplant.org	2020	409	Nature	The water lily genome and the early evolution of flowering plants
<i>Nymphaea thermarum</i>		Illumina		Nymphaeaceae/Nymphaea	Perennial herbaceous flowers	ncbi.nlm.nih.gov;	2020	368	PNAS	Water lily (<i>Nymphaea thermarum</i>) genome reveals variable genomic signatures of ancient vascular cambium losses
<i>Paeonia suffruticosa</i>	Luo shen xiao chun	BGISEQ-500+PacBio	Tree peony	Paeoniaceae/Paeonia	Flowering shrubs	db.cngb.org	2019	13793	Ecology and Evolution	Draft genome of the famous ornamental plant <i>Paeonia suffruticosa</i>
<i>Phalaenopsis aphrodite</i>		Illumina	Aphrodite's phalaenopsis	Orchidaceae/Phalaenopsis	Perennial herbaceous flowers	ncbi.nlm.nih.gov; orchidstra2.abrc.sinica.edu.tw/orchidstra2/pagenome.php	2018	1025.1	Plant Biotechnology Journal	Chromosome-level assembly, genetic and physical mapping of <i>Phalaenopsis aphrodite</i> genome provides new insights into species adaptation and resources for orchid breeding
<i>Phalaenopsis</i>		Illumina	The horse	Orchidaceae/Phalaenopsis	Perennial	ncbi.nlm.nih.gov;	2015	1086.2	Nature	The genome sequence of the orchid <i>Phalaenopsis equestris</i>

<i>equestris</i>			phalaenopsis	sis	herbaceous flowers	ftp://ftp.genomics.org.cn/from_BGISZ/20130120/; genomeevolution.org; chibba.agtec.uga.edu/duplication; orchidbase.itps.ncku.edu.tw/est/home2012.aspx; <i>orchidstra2.abrc.sinica.edu.tw</i>			Genetics	
<i>Prunus mume</i>	wild population	Illumina	Chinese plum	Rosaceae/Prunus	Flowering trees	ncbi.nlm.nih.gov; genomeevolution.org/CoGe; chibba.agtec.uga.edu/duplication;	2012	280	Nature communication	The genome of <i>Prunus mume</i>
<i>Prunus yedoensis</i>	Pyn-Jeju2	Illumina+PacBio	Yoshino Cherry	Rosaceae/Prunus	Flowering trees	ncbi.nlm.nih.gov; rosaceae.org;	2018	323.8	Genome Biology	Draft genome sequence of wild <i>Prunus yedoensis</i> reveals massive inter-specific hybridization between sympatric flowering
<i>Rhododendron ovatum</i>		PacBio	Azalea	Ericaceae/Rhododendron	Flowering shrubs	ncbi.nlm.nih.gov; ddbj.nig.ac.jp; ena.fr	2021	549	Plant Biotechnology Journal	High-quality evergreen azalea genome reveals tandem duplication-facilitated low-altitude adaptability and floral scent evolution
<i>Rosa chinensis</i>	Old Blush	Illumina+PacBio	Chinese rose	Rosaceae/Rosa	Flowering shrubs	ncbi.nlm.nih.gov; rosaceae.org/	2018	512	Nature Plants	A high-quality genome sequence of <i>Rosa chinensis</i> to elucidate ornamental traits
	Old Blush	Illumina+PacBio	Chinese rose	Rosaceae/Rosa	Flowering shrubs	ncbi.nlm.nih.gov; ddbj.nig.ac.jp; ena.fr; rosaceae.org/	2018	515	Nature Genetics	The Rosa genome provides new insights into the domestication of modern roses
<i>Rosa multiflora</i>	wild population	Illumina	Multiflora rose, Baby rose, Japanese rose, Many-flowered rose, Seven-sisters rose, Eijitsu rose, Rambler rose	Rosaceae/Rosa	Flowering shrubs	ncbi.nlm.nih.gov; rosaceae.org/	2018	739.6	DNA Research	Genome structure of <i>Rosa multiflora</i> , a wild ancestor of cultivated roses
<i>Rosa rugosa</i>		PacBio		Rosaceae/Rosa	Flowering shrubs	eplant.njau.edu.cn	2021	382.6	Horticulture Research	A chromosome-level genome assembly of rugged rose (<i>Rosa rugosa</i>) provides insights into its evolution, ecology, and floral characteristics