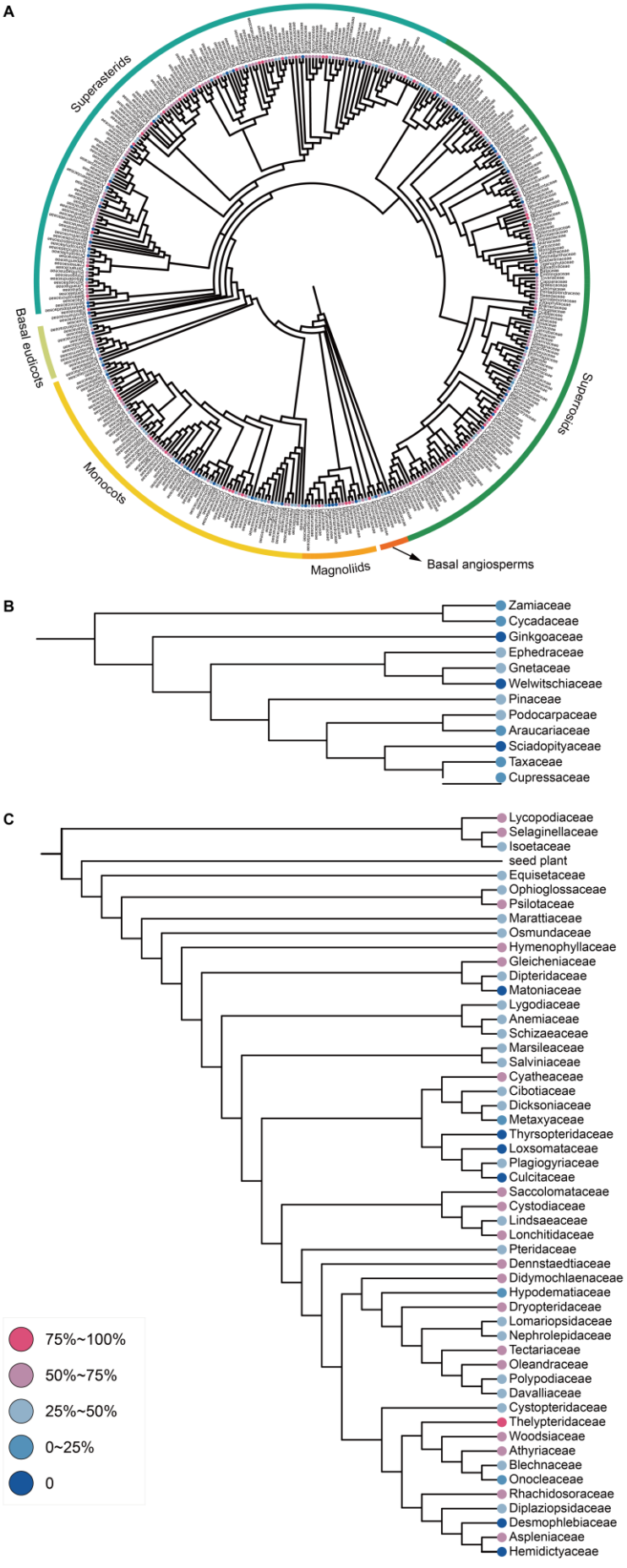
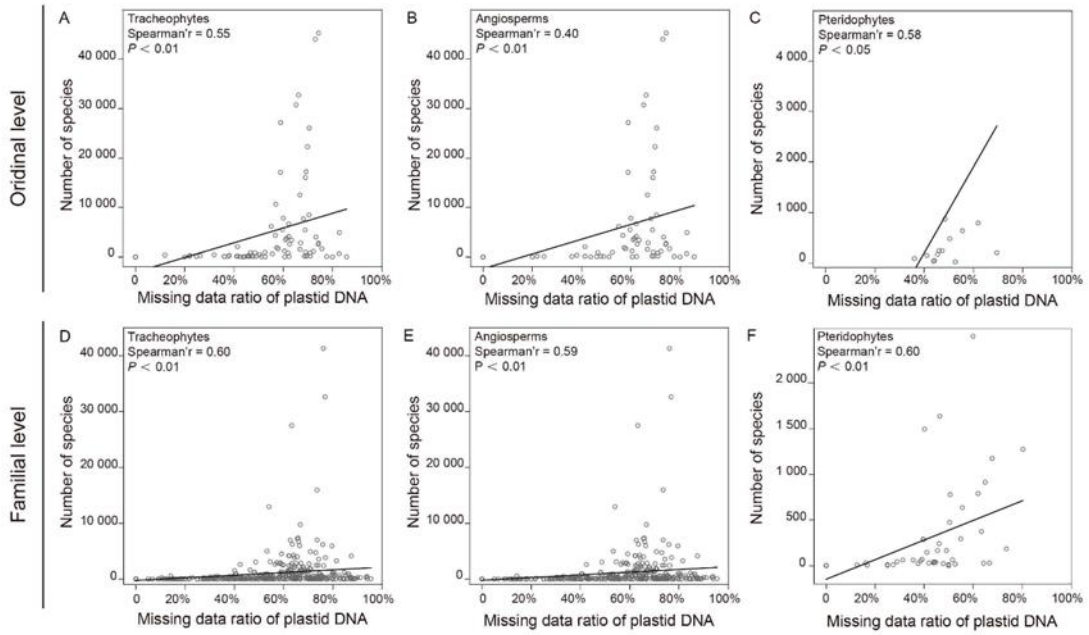

A
Superasterids
Basal eudicots
Monocots
Magnoliids
Basal angiosperms
Superrosids
B
Zamiaceae
Cycadaceae
Ginkgoaceae
Ephedraceae
Gnetaceae
Welwitschiaceae
Pinaceae
Podocarpaceae
Araucariaceae
Sciadopityaceae
Taxaceae
Cupressaceae
C
Lycopodiaceae
Selaginellaceae
Isoetaceae
seed plant
Equisetaceae
Ophioglossaceae
Psilotaceae
Marattiaceae
Osmundaceae
Hymenophyllaceae
Gleicheniaceae
Dipteridaceae
Matoniaceae
Lygodiaceae
Anemiaceae
Schizaeaceae
Marsileaceae
Salviniaceae
Cyatheaceae
Cibotiaceae
Dicksoniaceae
Metaxyaceae
Thyrsopteridaceae
Loxsomataceae
Plagiogyriaceae
Culcitaceae
Saccolomataceae
Cystodiaceae
Lindsaeaceae
Lonchitidaceae
Pteridaceae
Dennstaedtiaceae
Didymochlaenaceae
Hypodematiaceae
Dryopteridaceae
Lomariopsidaceae
Nephrolepidaceae
Tectariaceae
Oleandraceae
Polypodiaceae
Davalliaceae
Cystopteridaceae
Thelypteridaceae
Woodsiaceae
Athyriaceae
Blechnaceae
Onocleaceae
Rhachidosoraceae
Diplaziopsidaceae
Desmophlebiaceae
Aspleniaceae
Hemidictyaceae
75%~100%
50%~75%
25%~50%
0~25%
0

附图 1　被子植物**(A)**、裸子植物**(B)**和广义蕨类植物**(C)**在科水平的质体 DNA 数据缺失率

系统发生树末端节点的颜色表示缺失情况。科水平系统树更改自 APG IV (The Angiosperm Phylogeny Group et al., 2016)、Christenhusz 等 (2011)和 PPG I (PPG I, 2016)。

Appendix figure 1　The proportion of missing data of plastid DNA at the family level of angiosperms **(A)**, gymnosperms **(B)**, and pteridophytes **(C)**

Colored circles at the terminal of phylogenetic tree represent the degree of missing data ratios of plastid DNA. The phylogenetic trees were modified from APG IV (The Angiosperm Phylogeny Group et al., 2016), Christenhusz et al. (2011), and PPG I (PPG I, 2016), respectively.



附图 2　所有维管植物、被子植物和广义蕨类植物目**(A–C)**和科水平**(D–F)**的物种数与质体 DNA 数据缺失率的 Spearman 相关性

Appendix figure 2　Spearman correlations between the proportion of missing data of plastid DNA and species number at the ordinal **(A–C)** and family **(D–F)** levels of tracheophytes, angiosperms, and pteridophytes

附表 1 维管植物在目水平的质体 DNA 数据缺失率
Appendix table 1 The proportion of missing data of plastid DNA at the ordinal level of tracheophytes

Class	Order	Missing data ratios of plastid DNA	Class	Order	Missing data ratios of plastid DNA
Lycopodiopsida	Isoëtales	46.06%	Magnoliopsida	Malpighiales	69.84%
Lycopodiopsida	Lycopodiales	50.42%	Magnoliopsida	Malvales	70.46%
Lycopodiopsida	Selaginellales	61.95%	Magnoliopsida	Metteniusales	77.63%
Magnoliopsida	Acorales	20.00%	Magnoliopsida	Myrtales	68.97%
Magnoliopsida	Alismatales	68.82%	Magnoliopsida	Nymphaeales	41.38%
Magnoliopsida	Amborellales	0.00%	Magnoliopsida	Oxalidales	74.20%
Magnoliopsida	Apiales	62.24%	Magnoliopsida	Pandanales	75.71%
Magnoliopsida	Aquifoliales	70.92%	Magnoliopsida	Paracryphiales	85.71%
Magnoliopsida	Arecales	67.02%	Magnoliopsida	Petrosaviales	0.00%
Magnoliopsida	Asparagales	73.01%	Magnoliopsida	Picramniales	46.15%
Magnoliopsida	Asterales	74.36%	Magnoliopsida	Piperales	82.81%
Magnoliopsida	Austrobaileyales	47.79%	Magnoliopsida	Poales	58.94%
Magnoliopsida	Berberidopsidales	0.00%	Magnoliopsida	Proteales	62.59%
Magnoliopsida	Boraginales	62.27%	Magnoliopsida	Ranunculales	68.17%
Magnoliopsida	Brassicales	55.13%	Magnoliopsida	Rosales	66.76%
Magnoliopsida	Bruniales	24.73%	Magnoliopsida	Santalales	74.32%
Magnoliopsida	Buxales	21.95%	Magnoliopsida	Sapindales	60.01%
Magnoliopsida	Canellales	68.59%	Magnoliopsida	Saxifragales	56.78%
Magnoliopsida	Caryophyllales	58.89%	Magnoliopsida	Solanales	59.72%
Magnoliopsida	Celastrales	66.77%	Magnoliopsida	Trochodendrales	0.00%
Magnoliopsida	Ceratophyllales	43.75%	Magnoliopsida	Vahliales	80.00%
Magnoliopsida	Chloranthales	36.05%	Magnoliopsida	Vitales	60.52%
Magnoliopsida	Commelinales	72.23%	Magnoliopsida	Zingiberales	63.38%
Magnoliopsida	Cornales	46.62%	Magnoliopsida	Zygophyllales	38.07%
Magnoliopsida	Crossosomatales	48.86%	Pinopsida	Araucariales	26.24%
Magnoliopsida	Cucurbitales	60.91%	Pinopsida	Cupressales	22.11%
Magnoliopsida	Dilleniales	82.65%	Pinopsida	Cycadales	11.92%
Magnoliopsida	Dioscoreales	69.07%	Pinopsida	Ephedrales	37.63%
Magnoliopsida	Dipsacales	57.95%	Pinopsida	Ginkgoales	0.00%
Magnoliopsida	Ericales	69.28%	Pinopsida	Gnetales	42.37%
Magnoliopsida	Escalloniales	69.38%	Pinopsida	Pinales	31.94%
Magnoliopsida	Fabales	65.20%	Pinopsida	Welwitschiales	0.00%
Magnoliopsida	Fagales	57.32%	Polypodiopsida	Cyatheales	48.51%
Magnoliopsida	Garryales	51.11%	Polypodiopsida	Equisetales	44.19%
Magnoliopsida	Gentianales	70.52%	Polypodiopsida	Gleicheniales	69.50%
Magnoliopsida	Geraniales	52.54%	Polypodiopsida	Hymenophyllales	55.57%
Magnoliopsida	Gunnerales	62.34%	Polypodiopsida	Marattiales	45.45%
Magnoliopsida	Huerteales	60.61%	Polypodiopsida	Ophioglossales	41.10%
Magnoliopsida	Icacinales	70.97%	Polypodiopsida	Osmundales	43.75%
Magnoliopsida	Lamiales	66.19%	Polypodiopsida	Polypodiales	56.97%
Magnoliopsida	Laurales	73.33%	Polypodiopsida	Psilotales	52.63%
Magnoliopsida	Liliales	41.43%	Polypodiopsida	Salviniales	36.05%
Magnoliopsida	Magnoliales	61.39%	Polypodiopsida	Schizaeales	47.28%

附表 2 维管植物在科水平的质体 DNA 数据缺失率
Appendix table 2 The proportion of missing data of plastid DNA at the family level of tracheophytes

Class	Order	Family	Missing data ratios of plastid DNA
Lycopodiopsida	Isoëtales	Isoëtaceae	46.06%
Lycopodiopsida	Lycopodiales	Lycopodiaceae	50.42%
Lycopodiopsida	Selaginellales	Selaginellaceae	61.95%
Magnoliopsida	Acorales	Acoraceae	20.00%
Magnoliopsida	Alismatales	Alismataceae	31.11%
Magnoliopsida	Alismatales	Aponogetonaceae	32.26%
Magnoliopsida	Alismatales	Araceae	72.98%
Magnoliopsida	Alismatales	Butomaceae	50.00%
Magnoliopsida	Alismatales	Cymodoceaceae	27.78%
Magnoliopsida	Alismatales	Hydrocharitaceae	50.88%
Magnoliopsida	Alismatales	Juncaginaceae	43.59%
Magnoliopsida	Alismatales	Maundiaceae	0.00%
Magnoliopsida	Alismatales	Posidoniaceae	11.11%
Magnoliopsida	Alismatales	Potamogetonaceae	51.90%
Magnoliopsida	Alismatales	Ruppiaceae	9.09%
Magnoliopsida	Alismatales	Scheuchzeriaceae	0.00%
Magnoliopsida	Alismatales	Tofieldiaceae	39.13%
Magnoliopsida	Alismatales	Zosteraceae	9.52%
Magnoliopsida	Amborellales	Amborellaceae	0.00%
Magnoliopsida	Apiales	Apiaceae	59.14%
Magnoliopsida	Apiales	Araliaceae	68.27%
Magnoliopsida	Apiales	Griseliniaceae	0.00%
Magnoliopsida	Apiales	Myodocarpaceae	15.79%
Magnoliopsida	Apiales	Pennantiaceae	0.00%
Magnoliopsida	Apiales	Pittosporaceae	76.16%
Magnoliopsida	Apiales	Torricelliaceae	27.27%
Magnoliopsida	Aquifoliales	Aquifoliaceae	69.84%
Magnoliopsida	Aquifoliales	Cardiopteridaceae	63.41%
Magnoliopsida	Aquifoliales	Helwingiaceae	58.33%
Magnoliopsida	Aquifoliales	Phyllonomaceae	60.00%
Magnoliopsida	Aquifoliales	Stemonuraceae	84.62%
Magnoliopsida	Arecales	Arecaceae	67.03%
Magnoliopsida	Arecales	Dasypogonaceae	65.00%
Magnoliopsida	Asparagales	Amaryllidaceae	63.38%
Magnoliopsida	Asparagales	Asparagaceae	64.29%
Magnoliopsida	Asparagales	Asphodelaceae	62.76%
Magnoliopsida	Asparagales	Asteliaceae	11.63%
Magnoliopsida	Asparagales	Blandfordiaceae	0.00%
Magnoliopsida	Asparagales	Boryaceae	0.00%
Magnoliopsida	Asparagales	Doryanthaceae	0.00%
Magnoliopsida	Asparagales	Hypoxidaceae	66.67%
Magnoliopsida	Asparagales	Iridaceae	58.73%
Magnoliopsida	Asparagales	Ixioliriaceae	66.67%
Magnoliopsida	Asparagales	Lanariaceae	0.00%
Magnoliopsida	Asparagales	Orchidaceae	76.83%

Magnoliopsida	Asparagales	Tecophilaeaceae	28.12%
Magnoliopsida	Asparagales	Xeronemataceae	75.00%
Magnoliopsida	Asterales	Alseuosmiaceae	58.33%
Magnoliopsida	Asterales	Argophyllaceae	56.00%
Magnoliopsida	Asterales	Asteraceae	76.11%
Magnoliopsida	Asterales	Calyceraceae	15.09%
Magnoliopsida	Asterales	Campanulaceae	57.20%
Magnoliopsida	Asterales	Goodeniaceae	33.20%
Magnoliopsida	Asterales	Menyanthaceae	35.44%
Magnoliopsida	Asterales	Pentaphragmataceae	93.94%
Magnoliopsida	Asterales	Phellinaceae	70.00%
Magnoliopsida	Asterales	Rousseaceae	53.33%
Magnoliopsida	Asterales	Stylidiaceae	93.41%
Magnoliopsida	Austrobaileyales	Austrobaileyaceae	0.00%
Magnoliopsida	Austrobaileyales	Schisandraceae	45.19%
Magnoliopsida	Austrobaileyales	Trimeniaceae	87.50%
Magnoliopsida	Berberidopsidales	Aextoxicaceae	0.00%
Magnoliopsida	Berberidopsidales	Berberidopsidaceae	0.00%
Magnoliopsida	Boraginales	Boraginaceae	62.27%
Magnoliopsida	Brassicales	Akaniaceae	0.00%
Magnoliopsida	Brassicales	Bataceae	50.00%
Magnoliopsida	Brassicales	Brassicaceae	53.27%
Magnoliopsida	Brassicales	Capparaceae	73.61%
Magnoliopsida	Brassicales	Caricaceae	20.00%
Magnoliopsida	Brassicales	Cleomaceae	54.75%
Magnoliopsida	Brassicales	Emblingiaceae	0.00%
Magnoliopsida	Brassicales	Gyrostemonaceae	65.00%
Magnoliopsida	Brassicales	Koeberliniaceae	80.00%
Magnoliopsida	Brassicales	Limnanthaceae	17.39%
Magnoliopsida	Brassicales	Moringaceae	40.00%
Magnoliopsida	Brassicales	Pentadiplandraceae	66.67%
Magnoliopsida	Brassicales	Resedaceae	58.05%
Magnoliopsida	Brassicales	Salvadoraceae	73.68%
Magnoliopsida	Brassicales	Setchellanthaceae	0.00%
Magnoliopsida	Brassicales	Tiganophytaceae	0.00%
Magnoliopsida	Brassicales	Tovariaceae	50.00%
Magnoliopsida	Brassicales	Tropaeolaceae	71.67%
Magnoliopsida	Bruniales	Bruniaceae	18.29%
Magnoliopsida	Bruniales	Columelliaceae	72.73%
Magnoliopsida	Buxales	Buxaceae	21.95%
Magnoliopsida	Canellales	Canellaceae	40.74%
Magnoliopsida	Canellales	Winteraceae	74.42%
Magnoliopsida	Caryophyllales	Achatocarpaceae	64.29%
Magnoliopsida	Caryophyllales	Aizoaceae	64.31%
Magnoliopsida	Caryophyllales	Amaranthaceae	58.29%
Magnoliopsida	Caryophyllales	Anacampserotaceae	0.00%
Magnoliopsida	Caryophyllales	Ancistrocladaceae	31.82%
Magnoliopsida	Caryophyllales	Asteropeiaceae	75.00%

Magnoliopsida	Caryophyllales	Barbeuiaceae	0.00%
Magnoliopsida	Caryophyllales	Basellaceae	65.22%
Magnoliopsida	Caryophyllales	Cactaceae	42.34%
Magnoliopsida	Caryophyllales	Caryophyllaceae	64.03%
Magnoliopsida	Caryophyllales	Didiereaceae	5.00%
Magnoliopsida	Caryophyllales	Dioncophyllaceae	0.00%
Magnoliopsida	Caryophyllales	Droseraceae	69.96%
Magnoliopsida	Caryophyllales	Drosophyllaceae	0.00%
Magnoliopsida	Caryophyllales	Frankeniaceae	88.78%
Magnoliopsida	Caryophyllales	Gisekiaceae	77.78%
Magnoliopsida	Caryophyllales	Halophytaceae	0.00%
Magnoliopsida	Caryophyllales	Kewaceae	37.50%
Magnoliopsida	Caryophyllales	Limeaceae	84.62%
Magnoliopsida	Caryophyllales	Lophiocarpaceae	42.86%
Magnoliopsida	Caryophyllales	Macarthuriaceae	55.56%
Magnoliopsida	Caryophyllales	Microteaceae	20.00%
Magnoliopsida	Caryophyllales	Molluginaceae	53.51%
Magnoliopsida	Caryophyllales	Montiaceae	57.78%
Magnoliopsida	Caryophyllales	Nepenthaceae	51.56%
Magnoliopsida	Caryophyllales	Nyctaginaceae	61.19%
Magnoliopsida	Caryophyllales	Petiveriaceae	54.17%
Magnoliopsida	Caryophyllales	Physenaceae	0.00%
Magnoliopsida	Caryophyllales	Phytolaccaceae	48.65%
Magnoliopsida	Caryophyllales	Plumbaginaceae	58.98%
Magnoliopsida	Caryophyllales	Polygonaceae	63.53%
Magnoliopsida	Caryophyllales	Portulacaceae	66.11%
Magnoliopsida	Caryophyllales	Rhabdodendraceae	66.67%
Magnoliopsida	Caryophyllales	Sarcobataceae	50.00%
Magnoliopsida	Caryophyllales	Simmondsiaceae	0.00%
Magnoliopsida	Caryophyllales	Stegnospermataceae	50.00%
Magnoliopsida	Caryophyllales	Talinaceae	60.71%
Magnoliopsida	Caryophyllales	Tamaricaceae	42.75%
Magnoliopsida	Celastrales	Celastraceae	66.86%
Magnoliopsida	Celastrales	Lepidobotryaceae	0.00%
Magnoliopsida	Ceratophyllales	Ceratophyllaceae	43.75%
Magnoliopsida	Chloranthales	Chloranthaceae	36.05%
Magnoliopsida	Commelinales	Commelinaceae	80.69%
Magnoliopsida	Commelinales	Haemodoraceae	38.75%
Magnoliopsida	Commelinales	Hanguanaceae	54.55%
Magnoliopsida	Commelinales	Philydraceae	37.50%
Magnoliopsida	Commelinales	Pontederiaceae	38.30%
Magnoliopsida	Cornales	Cornaceae	53.06%
Magnoliopsida	Cornales	Curtisiaceae	0.00%
Magnoliopsida	Cornales	Grubbiaceae	71.43%
Magnoliopsida	Cornales	Hydrangeaceae	47.24%
Magnoliopsida	Cornales	Hydrostachyaceae	76.92%
Magnoliopsida	Cornales	Loasaceae	37.95%
Magnoliopsida	Cornales	Nyssaceae	70.91%

Magnoliopsida	Crossosomatales	Aphloiaceae	0.00%
Magnoliopsida	Crossosomatales	Crossosomataceae	66.67%
Magnoliopsida	Crossosomatales	Geissolomataceae	0.00%
Magnoliopsida	Crossosomatales	Guamatelaceae	0.00%
Magnoliopsida	Crossosomatales	Stachyuraceae	14.29%
Magnoliopsida	Crossosomatales	Staphyleaceae	56.86%
Magnoliopsida	Crossosomatales	Strasburgeriaceae	0.00%
Magnoliopsida	Cucurbitales	Anisophylleaceae	72.86%
Magnoliopsida	Cucurbitales	Apodanthaceae	66.67%
Magnoliopsida	Cucurbitales	Begoniaceae	68.10%
Magnoliopsida	Cucurbitales	Coriariaceae	33.33%
Magnoliopsida	Cucurbitales	Corynocarpaceae	14.29%
Magnoliopsida	Cucurbitales	Cucurbitaceae	48.22%
Magnoliopsida	Cucurbitales	Datiscaceae	0.00%
Magnoliopsida	Cucurbitales	Tetramelaceae	0.00%
Magnoliopsida	Dilleniales	Dilleniaceae	82.65%
Magnoliopsida	Dioscoreales	Burmanniaceae	86.86%
Magnoliopsida	Dioscoreales	Dioscoreaceae	65.35%
Magnoliopsida	Dioscoreales	Nartheciaceae	30.00%
Magnoliopsida	Dipsacales	Caprifoliaceae	61.67%
Magnoliopsida	Dipsacales	Viburnaceae	41.00%
Magnoliopsida	Ericales	Actinidiaceae	80.58%
Magnoliopsida	Ericales	Balsaminaceae	67.96%
Magnoliopsida	Ericales	Clethraceae	79.17%
Magnoliopsida	Ericales	Cyrillaceae	84.62%
Magnoliopsida	Ericales	Diapensiaceae	64.52%
Magnoliopsida	Ericales	Ebenaceae	65.85%
Magnoliopsida	Ericales	Ericaceae	66.47%
Magnoliopsida	Ericales	Fouquieriaceae	21.43%
Magnoliopsida	Ericales	Lecythidaceae	60.88%
Magnoliopsida	Ericales	Marcgraviaceae	87.25%
Magnoliopsida	Ericales	Mitrastemonaceae	50.00%
Magnoliopsida	Ericales	Pentaphylacaceae	86.42%
Magnoliopsida	Ericales	Polemoniaceae	48.57%
Magnoliopsida	Ericales	Primulaceae	76.97%
Magnoliopsida	Ericales	Roridulaceae	0.00%
Magnoliopsida	Ericales	Sapotaceae	66.96%
Magnoliopsida	Ericales	Sarraceniaceae	70.31%
Magnoliopsida	Ericales	Sladeniaceae	0.00%
Magnoliopsida	Ericales	Styracaceae	55.21%
Magnoliopsida	Ericales	Symplocaceae	71.75%
Magnoliopsida	Ericales	Tetrameristaceae	50.00%
Magnoliopsida	Ericales	Theaceae	58.55%
Magnoliopsida	Escalloniales	Escalloniaceae	69.38%
Magnoliopsida	Fabales	Fabaceae	63.27%
Magnoliopsida	Fabales	Polygalaceae	81.47%
Magnoliopsida	Fabales	Quillajaceae	0.00%
Magnoliopsida	Fabales	Surianaceae	33.33%

Magnoliopsida	Fagales	Betulaceae	53.36%
Magnoliopsida	Fagales	Casuarinaceae	30.70%
Magnoliopsida	Fagales	Fagaceae	62.27%
Magnoliopsida	Fagales	Juglandaceae	42.99%
Magnoliopsida	Fagales	Myricaceae	63.16%
Magnoliopsida	Fagales	Nothofagaceae	36.36%
Magnoliopsida	Fagales	Ticodendraceae	0.00%
Magnoliopsida	Garryales	Eucommiaceae	0.00%
Magnoliopsida	Garryales	Garryaceae	52.27%
Magnoliopsida	Gentianales	Apocynaceae	65.51%
Magnoliopsida	Gentianales	Gelsemiaceae	50.00%
Magnoliopsida	Gentianales	Gentianaceae	64.37%
Magnoliopsida	Gentianales	Loganiaceae	75.23%
Magnoliopsida	Gentianales	Rubiaceae	73.56%
Magnoliopsida	Geraniales	Francoaceae	36.96%
Magnoliopsida	Geraniales	Geraniaceae	53.33%
Magnoliopsida	Gunnerales	Gunneraceae	64.00%
Magnoliopsida	Gunnerales	Myrothamnaceae	0.00%
Magnoliopsida	Huerteales	Dipentodontaceae	70.83%
Magnoliopsida	Huerteales	Gerrardinaceae	50.00%
Magnoliopsida	Huerteales	Petenaeaceae	0.00%
Magnoliopsida	Huerteales	Tapisciaceae	33.33%
Magnoliopsida	Icacinales	Icacinaceae	71.20%
Magnoliopsida	Icacinales	Oncothecaceae	50.00%
Magnoliopsida	Lamiales	Acanthaceae	79.57%
Magnoliopsida	Lamiales	Bignoniaceae	40.36%
Magnoliopsida	Lamiales	Byblidaceae	12.50%
Magnoliopsida	Lamiales	Calceolariaceae	0.00%
Magnoliopsida	Lamiales	Carlemanniaceae	40.00%
Magnoliopsida	Lamiales	Gesneriaceae	62.10%
Magnoliopsida	Lamiales	Lamiaceae	66.76%
Magnoliopsida	Lamiales	Lentibulariaceae	42.64%
Magnoliopsida	Lamiales	Linderniaceae	69.30%
Magnoliopsida	Lamiales	Martyniaceae	20.00%
Magnoliopsida	Lamiales	Mazaceae	40.82%
Magnoliopsida	Lamiales	Oleaceae	58.41%
Magnoliopsida	Lamiales	Orobanchaceae	65.07%
Magnoliopsida	Lamiales	Paulowniaceae	46.67%
Magnoliopsida	Lamiales	Pedaliaceae	68.69%
Magnoliopsida	Lamiales	Phrymaceae	50.63%
Magnoliopsida	Lamiales	Plantaginaceae	54.53%
Magnoliopsida	Lamiales	Plocospermataceae	0.00%
Magnoliopsida	Lamiales	Schlegeliaceae	81.08%
Magnoliopsida	Lamiales	Scrophulariaceae	70.31%
Magnoliopsida	Lamiales	Stilbaceae	48.72%
Magnoliopsida	Lamiales	Tetrachondraceae	0.00%
Magnoliopsida	Lamiales	Thomandersiaceae	50.00%
Magnoliopsida	Lamiales	Verbenaceae	74.59%

Magnoliopsida	Laurales	Atherospermataceae	48.00%
Magnoliopsida	Laurales	Calycanthaceae	15.38%
Magnoliopsida	Laurales	Gomortegaceae	0.00%
Magnoliopsida	Laurales	Hernandiaceae	55.43%
Magnoliopsida	Laurales	Lauraceae	74.25%
Magnoliopsida	Laurales	Monimiaceae	76.07%
Magnoliopsida	Laurales	Siparunaceae	55.56%
Magnoliopsida	Liliales	Alstroemeriaceae	53.12%
Magnoliopsida	Liliales	Campynemataceae	25.00%
Magnoliopsida	Liliales	Colchicaceae	30.18%
Magnoliopsida	Liliales	Corsiaceae	88.89%
Magnoliopsida	Liliales	Liliaceae	40.69%
Magnoliopsida	Liliales	Melanthiaceae	34.21%
Magnoliopsida	Liliales	Petermanniaceae	0.00%
Magnoliopsida	Liliales	Philesiaceae	0.00%
Magnoliopsida	Liliales	Ripogonaceae	0.00%
Magnoliopsida	Liliales	Smilacaceae	48.38%
Magnoliopsida	Magnoliales	Annonaceae	56.44%
Magnoliopsida	Magnoliales	Degeneriaceae	0.00%
Magnoliopsida	Magnoliales	Eupomatiaceae	0.00%
Magnoliopsida	Magnoliales	Himantandraceae	0.00%
Magnoliopsida	Magnoliales	Magnoliaceae	51.91%
Magnoliopsida	Magnoliales	Myristicaceae	85.26%
Magnoliopsida	Malpighiales	Achariaceae	72.87%
Magnoliopsida	Malpighiales	Balanopaceae	33.33%
Magnoliopsida	Malpighiales	Bonnetiaceae	75.61%
Magnoliopsida	Malpighiales	Calophyllaceae	74.69%
Magnoliopsida	Malpighiales	Caryocaraceae	74.19%
Magnoliopsida	Malpighiales	Centroplacaceae	55.56%
Magnoliopsida	Malpighiales	Chrysobalanaceae	72.49%
Magnoliopsida	Malpighiales	Clusiaceae	86.41%
Magnoliopsida	Malpighiales	Ctenolophonaceae	0.00%
Magnoliopsida	Malpighiales	Dichapetalaceae	91.18%
Magnoliopsida	Malpighiales	Elatinaceae	37.70%
Magnoliopsida	Malpighiales	Erythroxylaceae	82.88%
Magnoliopsida	Malpighiales	Euphorbiaceae	65.90%
Magnoliopsida	Malpighiales	Euphroniaceae	66.67%
Magnoliopsida	Malpighiales	Goupiaceae	50.00%
Magnoliopsida	Malpighiales	Humiriaceae	84.21%
Magnoliopsida	Malpighiales	Hypericaceae	63.85%
Magnoliopsida	Malpighiales	Irvingiaceae	42.86%
Magnoliopsida	Malpighiales	Ixonanthaceae	52.17%
Magnoliopsida	Malpighiales	Lacistemataceae	64.71%
Magnoliopsida	Malpighiales	Linaceae	65.41%
Magnoliopsida	Malpighiales	Lophopyxidaceae	0.00%
Magnoliopsida	Malpighiales	Malpighiaceae	69.26%
Magnoliopsida	Malpighiales	Ochnaceae	75.52%
Magnoliopsida	Malpighiales	Pandaceae	29.41%

Magnoliopsida	Malpighiales	Passifloraceae	61.89%
Magnoliopsida	Malpighiales	Peraceae	74.80%
Magnoliopsida	Malpighiales	Phyllanthaceae	76.25%
Magnoliopsida	Malpighiales	Picrodendraceae	71.70%
Magnoliopsida	Malpighiales	Podostemaceae	54.33%
Magnoliopsida	Malpighiales	Putranjivaceae	77.45%
Magnoliopsida	Malpighiales	Rafflesiaceae	73.58%
Magnoliopsida	Malpighiales	Rhizophoraceae	62.89%
Magnoliopsida	Malpighiales	Salicaceae	70.66%
Magnoliopsida	Malpighiales	Trigoniaceae	88.10%
Magnoliopsida	Malpighiales	Violaceae	71.05%
Magnoliopsida	Malvales	Bixaceae	50.00%
Magnoliopsida	Malvales	Cistaceae	55.34%
Magnoliopsida	Malvales	Cytinaceae	84.21%
Magnoliopsida	Malvales	Dipterocarpaceae	50.33%
Magnoliopsida	Malvales	Malvaceae	75.87%
Magnoliopsida	Malvales	Muntingiaceae	33.33%
Magnoliopsida	Malvales	Neuradaceae	60.00%
Magnoliopsida	Malvales	Sarcolaenaceae	50.00%
Magnoliopsida	Malvales	Sphaerosepalaceae	80.00%
Magnoliopsida	Malvales	Thymelaeaceae	59.00%
Magnoliopsida	Metteniusales	Metteniusaceae	77.63%
Magnoliopsida	Myrtales	Alzateaceae	66.67%
Magnoliopsida	Myrtales	Combretaceae	74.51%
Magnoliopsida	Myrtales	Crypteroniaceae	42.86%
Magnoliopsida	Myrtales	Lythraceae	68.12%
Magnoliopsida	Myrtales	Melastomataceae	63.53%
Magnoliopsida	Myrtales	Myrtaceae	73.57%
Magnoliopsida	Myrtales	Onagraceae	63.74%
Magnoliopsida	Myrtales	Penaeaceae	28.57%
Magnoliopsida	Myrtales	Vochysiaceae	90.03%
Magnoliopsida	Nymphaeales	Cabombaceae	60.00%
Magnoliopsida	Nymphaeales	Hydatellaceae	13.33%
Magnoliopsida	Nymphaeales	Nymphaeaceae	43.33%
Magnoliopsida	Oxalidales	Brunelliaceae	89.19%
Magnoliopsida	Oxalidales	Cephalotaceae	0.00%
Magnoliopsida	Oxalidales	Connaraceae	87.54%
Magnoliopsida	Oxalidales	Cunoniaceae	78.01%
Magnoliopsida	Oxalidales	Elaeocarpaceae	80.06%
Magnoliopsida	Oxalidales	Huaceae	25.00%
Magnoliopsida	Oxalidales	Oxalidaceae	60.00%
Magnoliopsida	Pandanales	Cyclanthaceae	71.14%
Magnoliopsida	Pandanales	Pandanaceae	79.69%
Magnoliopsida	Pandanales	Stemonaceae	26.19%
Magnoliopsida	Pandanales	Triuridaceae	95.45%
Magnoliopsida	Pandanales	Velloziaceae	69.60%
Magnoliopsida	Paracryphiales	Paracryphiaceae	85.71%
Magnoliopsida	Petrosaviales	Petrosaviaceae	0.00%

Magnoliopsida	Picramniales	Picramniaceae	46.15%
Magnoliopsida	Piperales	Aristolochiaceae	59.28%
Magnoliopsida	Piperales	Piperaceae	87.50%
Magnoliopsida	Piperales	Saururaceae	0.00%
Magnoliopsida	Poales	Bromeliaceae	65.54%
Magnoliopsida	Poales	Cyperaceae	62.67%
Magnoliopsida	Poales	Ecdeiocoleaceae	0.00%
Magnoliopsida	Poales	Eriocaulaceae	69.77%
Magnoliopsida	Poales	Flagellariaceae	0.00%
Magnoliopsida	Poales	Joinvilleaceae	33.33%
Magnoliopsida	Poales	Juncaceae	66.42%
Magnoliopsida	Poales	Mayacaceae	80.00%
Magnoliopsida	Poales	Poaceae	54.02%
Magnoliopsida	Poales	Rapateaceae	75.45%
Magnoliopsida	Poales	Restionaceae	14.16%
Magnoliopsida	Poales	Thurniaceae	25.00%
Magnoliopsida	Poales	Typhaceae	53.57%
Magnoliopsida	Poales	Xyridaceae	93.86%
Magnoliopsida	Proteales	Nelumbonaceae	0.00%
Magnoliopsida	Proteales	Platanaceae	40.00%
Magnoliopsida	Proteales	Proteaceae	63.00%
Magnoliopsida	Proteales	Sabiaceae	59.62%
Magnoliopsida	Ranunculales	Berberidaceae	54.66%
Magnoliopsida	Ranunculales	Circaeasteraceae	0.00%
Magnoliopsida	Ranunculales	Eupteleaceae	0.00%
Magnoliopsida	Ranunculales	Lardizabalaceae	35.00%
Magnoliopsida	Ranunculales	Menispermaceae	62.10%
Magnoliopsida	Ranunculales	Papaveraceae	70.14%
Magnoliopsida	Ranunculales	Ranunculaceae	70.85%
Magnoliopsida	Rosales	Barbeyaceae	0.00%
Magnoliopsida	Rosales	Cannabaceae	32.50%
Magnoliopsida	Rosales	Dirachmaceae	50.00%
Magnoliopsida	Rosales	Elaeagnaceae	65.47%
Magnoliopsida	Rosales	Moraceae	67.61%
Magnoliopsida	Rosales	Rhamnaceae	61.80%
Magnoliopsida	Rosales	Rosaceae	66.07%
Magnoliopsida	Rosales	Ulmaceae	28.17%
Magnoliopsida	Rosales	Urticaceae	74.05%
Magnoliopsida	Santalales	Balanophoraceae	85.92%
Magnoliopsida	Santalales	Loranthaceae	84.65%
Magnoliopsida	Santalales	Misodendraceae	12.50%
Magnoliopsida	Santalales	Olacaceae	66.67%
Magnoliopsida	Santalales	Opiliaceae	64.71%
Magnoliopsida	Santalales	Santalaceae	66.16%
Magnoliopsida	Santalales	Schoepfiaceae	71.05%
Magnoliopsida	Sapindales	Anacardiaceae	63.60%
Magnoliopsida	Sapindales	Biebersteiniaceae	0.00%
Magnoliopsida	Sapindales	Burseraceae	52.19%

Magnoliopsida	Sapindales	Kirkiaceae	66.67%
Magnoliopsida	Sapindales	Meliaceae	52.94%
Magnoliopsida	Sapindales	Nitrariaceae	31.58%
Magnoliopsida	Sapindales	Rutaceae	59.27%
Magnoliopsida	Sapindales	Sapindaceae	66.18%
Magnoliopsida	Sapindales	Simaroubaceae	42.34%
Magnoliopsida	Saxifragales	Altingiaceae	6.67%
Magnoliopsida	Saxifragales	Aphanopetalaceae	0.00%
Magnoliopsida	Saxifragales	Cercidiphyllaceae	0.00%
Magnoliopsida	Saxifragales	Crassulaceae	62.16%
Magnoliopsida	Saxifragales	Cynomoriaceae	33.33%
Magnoliopsida	Saxifragales	Daphniphyllaceae	82.93%
Magnoliopsida	Saxifragales	Grossulariaceae	69.52%
Magnoliopsida	Saxifragales	Haloragaceae	43.14%
Magnoliopsida	Saxifragales	Hamamelidaceae	39.85%
Magnoliopsida	Saxifragales	Iteaceae	61.54%
Magnoliopsida	Saxifragales	Paeoniaceae	45.71%
Magnoliopsida	Saxifragales	Penthoraceae	0.00%
Magnoliopsida	Saxifragales	Peridiscaceae	18.18%
Magnoliopsida	Saxifragales	Saxifragaceae	48.08%
Magnoliopsida	Saxifragales	Tetracarpaeaceae	0.00%
Magnoliopsida	Solanales	Convolvulaceae	73.25%
Magnoliopsida	Solanales	Hydroleaceae	72.22%
Magnoliopsida	Solanales	Montiniaceae	60.00%
Magnoliopsida	Solanales	Solanaceae	48.66%
Magnoliopsida	Solanales	Sphenocleaceae	50.00%
Magnoliopsida	Trochodendrales	Trochodendraceae	0.00%
Magnoliopsida	Vahliales	Vahliaceae	80.00%
Magnoliopsida	Vitales	Vitaceae	60.52%
Magnoliopsida	Zingiberales	Cannaceae	25.00%
Magnoliopsida	Zingiberales	Costaceae	44.38%
Magnoliopsida	Zingiberales	Heliconiaceae	42.86%
Magnoliopsida	Zingiberales	Lowiaceae	64.71%
Magnoliopsida	Zingiberales	Marantaceae	63.73%
Magnoliopsida	Zingiberales	Musaceae	53.09%
Magnoliopsida	Zingiberales	Strelitziaceae	50.00%
Magnoliopsida	Zingiberales	Zingiberaceae	68.03%
Magnoliopsida	Zygophyllales	Krameriaceae	64.71%
Magnoliopsida	Zygophyllales	Zygophyllaceae	36.72%
Pinopsida	Araucariales	Araucariaceae	19.05%
Pinopsida	Araucariales	Podocarpaceae	27.60%
Pinopsida	Cupressales	Cupressaceae	22.92%
Pinopsida	Cupressales	Sciadopityaceae	0.00%
Pinopsida	Cupressales	Taxaceae	18.18%
Pinopsida	Cycadales	Cycadaceae	14.84%
Pinopsida	Cycadales	Zamiaceae	10.47%
Pinopsida	Ephedrales	Ephedraceae	37.63%
Pinopsida	Ginkgoales	Ginkgoaceae	0.00%

Pinopsida	Gnetales	Gnetaceae	42.37%
Pinopsida	Pinales	Pinaceae	31.94%
Pinopsida	Welwitschiales	Welwitschiaceae	0.00%
Polypodiopsida	Cyatheales	Cibotiaceae	25.00%
Polypodiopsida	Cyatheales	Culcitaceae	0.00%
Polypodiopsida	Cyatheales	Cyatheaceae	50.58%
Polypodiopsida	Cyatheales	Dicksoniaceae	28.89%
Polypodiopsida	Cyatheales	Loxsomataceae	0.00%
Polypodiopsida	Cyatheales	Metaxyaceae	16.67%
Polypodiopsida	Cyatheales	Plagiogyriaceae	47.83%
Polypodiopsida	Cyatheales	Thyrsopteridaceae	0.00%
Polypodiopsida	Equisetales	Equisetaceae	44.19%
Polypodiopsida	Gleicheniales	Dipteridaceae	27.27%
Polypodiopsida	Gleicheniales	Gleicheniaceae	73.51%
Polypodiopsida	Gleicheniales	Matoniaceae	0.00%
Polypodiopsida	Hymenophyllales	Hymenophyllaceae	55.57%
Polypodiopsida	Marattiales	Marattiaceae	45.45%
Polypodiopsida	Ophioglossales	Ophioglossaceae	41.10%
Polypodiopsida	Osmundales	Osmundaceae	43.75%
Polypodiopsida	Polypodiales	Aspleniaceae	67.74%
Polypodiopsida	Polypodiales	Athyriaceae	64.92%
Polypodiopsida	Polypodiales	Blechnaceae	39.52%
Polypodiopsida	Polypodiales	Cystodiaceae	50.00%
Polypodiopsida	Polypodiales	Cystopteridaceae	38.46%
Polypodiopsida	Polypodiales	Davalliaceae	39.13%
Polypodiopsida	Polypodiales	Dennstaedtiaceae	54.92%
Polypodiopsida	Polypodiales	Desmophlebiaceae	0.00%
Polypodiopsida	Polypodiales	Didymochlaenaceae	50.00%
Polypodiopsida	Polypodiales	Diplaziopsidaceae	25.00%
Polypodiopsida	Polypodiales	Dryopteridaceae	59.93%
Polypodiopsida	Polypodiales	Hemidictyaceae	0.00%
Polypodiopsida	Polypodiales	Hypodematiaceae	16.13%
Polypodiopsida	Polypodiales	Lindsaeaceae	39.72%
Polypodiopsida	Polypodiales	Lomariopsidaceae	31.25%
Polypodiopsida	Polypodiales	Lonchitidaceae	50.00%
Polypodiopsida	Polypodiales	Nephrolepidaceae	44.74%
Polypodiopsida	Polypodiales	Oleandraceae	64.29%
Polypodiopsida	Polypodiales	Onocleaceae	12.50%
Polypodiopsida	Polypodiales	Polypodiaceae	46.37%
Polypodiopsida	Polypodiales	Pteridaceae	40.11%
Polypodiopsida	Polypodiales	Rhachidosoraceae	50.00%
Polypodiopsida	Polypodiales	Saccolomataceae	66.67%
Polypodiopsida	Polypodiales	Tectariaceae	63.37%
Polypodiopsida	Polypodiales	Thelypteridaceae	80.31%
Polypodiopsida	Polypodiales	Woodsiaceae	51.52%
Polypodiopsida	Psilotales	Psilotaceae	52.63%
Polypodiopsida	Salviniales	Marsileaceae	35.48%
Polypodiopsida	Salviniales	Salviniaceae	37.50%

Polypodiopsida	Schizaeales	Anemiaceae	49.10%
Polypodiopsida	Schizaeales	Lygodiaceae	41.94%
Polypodiopsida	Schizaeales	Schizaeaceae	43.90%