

Dataset S1. List of plant material used in the present study. Herbarium acronyms follow Index Herbariorum (<http://sweetgum.nybg.org/ih/>).

Accession	Herbarium	Country	Province	Region	locality	haplotype	Latitude	Longitude
FBRSP0000269411	DGU	Cambodia	Mondolkiri	Sen Monorom		cp20A	12.5135	107.2528
BQUCH0033		Chile	Rapa Nui	Rano Raraku		cp17A	-27.1422	-109.4335
BQUCH0036		Chile	Rapa Nui	Aratataki Rereo		cp17A	-27.1212	-109.4013
BQUCH0038		Chile	Rapa Nui	Hanga Oteo		cp17A	-27.1432	-109.4239
BQUCH0238		Chile	Rapa Nui	Hanga Roa		cp17A	-27.1499	-109.4337
Skottsberg 670	NY, US	Chile	Rapa Nui			cp17C	-27.1540	-109.4213
China_Shanghai1		China	Shanghai	Xuhui		cp01A	31.1928	121.4382
China_Shanghai3		China	Shanghai	Xuhui		cp01A	31.1929	121.4382
China_Shanghai4		China	Shanghai	Xuhui		cp01A	31.1930	121.4382
Chung 1725_1	HAST	China	Fujian	Longyan	Liancheng	cp01A	25.6381	116.7246
Chung 1725_3	HAST	China	Fujian	Longyan	Liancheng	cp01A	25.6381	116.7246
Chung 1725_6	HAST	China	Fujian	Longyan	Liancheng	cp01A	25.6381	116.7246
Chung 1728_1	HAST	China	Guangdong	Meizhou	Meih sien	cp01B	24.3525	116.0991
Chung 1728_2	HAST	China	Guangdong	Meizhou	Meih sien	cp01B	24.3526	116.0991
Chung 1728_3	HAST	China	Guangdong	Meizhou	Meih sien	cp01B	24.3527	116.0991
Chung 1728_4	HAST	China	Guangdong	Meizhou	Meih sien	cp01B	24.3528	116.0991
Chung 1728_5	HAST	China	Guangdong	Meizhou	Meih sien	cp01B	24.3529	116.0991
Chung 1736-1	HAST	China	Guangdong	Huizhou	Boluo	cp01C	23.1788	113.9756
Chung 1736-2	HAST	China	Guangdong	Huizhou	Boluo	cp01C	23.1789	113.9756
Chung 1736-3	HAST	China	Guangdong	Huizhou	Boluo	cp01C	23.1790	113.9756
Chung 1766-1	HAST	China	Guangdong	Shaoguan	Ruyuan	cp01C	24.9455	113.0952
Chung 1766-2	HAST	China	Guangdong	Shaoguan	Ruyuan	cp01C	24.9456	113.0952
Chung 1766-3	HAST	China	Guangdong	Shaoguan	Ruyuan	cp01C	24.9457	113.0952
Chung 1766-4	HAST	China	Guangdong	Shaoguan	Ruyuan	cp01C	24.9458	113.0952
Chung 1766-5	HAST	China	Guangdong	Shaoguan	Ruyuan	cp01C	24.9459	113.0952
Chung 1726_4	HAST	China	Fujian	Longyan	Pengkou zhen	cp01C	25.4537	116.6705
Chung 2411	HAST	China	Fujian	Fuzhou		cp01C	26.0873	119.2291
Chung 2412	HAST	China	Fujian	Fuzhou		cp01C	26.0873	119.2291
Chung 2413	HAST	China	Fujian	Fuzhou		cp01C	26.0873	119.2291
Chung 2414	HAST	China	Fujian	Fuzhou		cp01C	26.0873	119.2291

Chung 2415	HAST	China	Fujian	Fuzhou		cp01C	26.0873	119.2291
Barchet s.n.	US	China	Zhejiang			cp01D	30.2556	120.1648
China_yn17	HAST	China	Yunnan	Pu'er	Menglian	cp20A	22.3330	99.6609
China_yn18	HAST	China	Yunnan	Pu'er	Menglian	cp20A	22.3331	99.6609
China_yn19	HAST	China	Yunnan	Pu'er	Menglian	cp20A	22.3332	99.6609
China_yn31	HAST	China	Yunnan	Xishuangbanna	Mengla	cp20A	21.9281	101.2570
Chung 1724-1	HAST	China	Fujian	Nanping	Yanping District	cp20A	26.6831	118.1846
Chung 1724-2	HAST	China	Fujian	Nanping	Yanping District	cp20A	26.6832	118.1846
Chung 1724-3	HAST	China	Fujian	Nanping	Yanping District	cp20A	26.6833	118.1846
Chung 1724-4	HAST	China	Fujian	Nanping	Yanping District	cp20A	26.6834	118.1846
Chung 1724-5	HAST	China	Fujian	Nanping	Yanping District	cp20A	26.6835	118.1846
Chung 1743-1	HAST	China	Guangdong	Shaoguan	Qujiang	cp20A	24.6746	113.5803
Chung 1747-1	HAST	China	Guangdong	Shaoguan	Ruyuan	cp20A	24.7793	113.3210
Chung 1747-2_a	HAST	China	Guangdong	Shaoguan	Ruyuan	cp20A	24.7794	113.3210
Chung 1747-3	HAST	China	Guangdong	Shaoguan	Ruyuan	cp20A	24.7795	113.3210
Chung 1749-2	HAST	China	Guangdong	Shaoguan	Ruyuan	cp20A	24.9480	113.4199
Chung 1750-4	HAST	China	Guangdong	Shaoguan	Lechang	cp20A	25.1127	113.3663
Chung 1752-1	HAST	China	Guangdong	Shaoguan	Ruyuan	cp20A	25.1116	113.3405
Chung 1753-1	HAST	China	Guangdong	Shaoguan	Renhua	cp20A	25.0734	113.6074
Chung 1753-3	HAST	China	Guangdong	Shaoguan	Renhua	cp20A	25.0733	113.6074
Chung 1754_1	HAST	China	Guangdong	Shaoguan	Renhua	cp20A	25.0835	113.6514
Chung 1754_3	HAST	China	Guangdong	Shaoguan	Renhua	cp20A	25.0834	113.6514
Chung 1847	HAST	China	Guangxi	Hezhou	Babu	cp20A	24.4043	111.5437
Chung 1849-2_a	HAST	China	Guangxi	Guilin	Pingle	cp20A	24.5026	110.8364
Chung 1912-1	HAST	China	Yunnan	Honghe	Yuanyang	cp20A	23.2147	102.8456
CSC-hainam	TNM	China	Hainan	Wuzhishan		cp20A	-1.8787	120.2447
Peng 22923_1	HAST	China	Guangxi	Chongzuo	Longzhou	cp20A	22.4917	106.9363
Peng 22923_2	HAST	China	Guangxi	Chongzuo	Longzhou	cp20A	22.4916	106.9363
Qu 23506	MO	China	Yunnan			cp20A	24.8656	98.8972
Chung 1743-3	HAST	China	Guangdong	Shaoguan	Qujiang	cp20B	24.6748	113.5803
Chung 1743-4	HAST	China	Guangdong	Shaoguan	Qujiang	cp20B	24.6749	113.5803
Chung 1743-5	HAST	China	Guangdong	Shaoguan	Qujiang	cp20B	24.6750	113.5803

Chung 1750-1	HAST	China	Guangdong	Shaoguan	Lechang	cp20B	25.1124	113.3663
Chung 1750-2	HAST	China	Guangdong	Shaoguan	Lechang	cp20B	25.1125	113.3663
Chung 1750-3	HAST	China	Guangdong	Shaoguan	Lechang	cp20B	25.1126	113.3663
Chung 1768-1	HAST	China	Guangdong	Qingyuan	Fogang	cp20B	23.6473	113.1608
Chung 1768-2	HAST	China	Guangdong	Qingyuan	Fogang	cp20B	23.6474	113.1608
Chung 1768-3	HAST	China	Guangdong	Qingyuan	Fogang	cp20B	23.6475	113.1608
Chung 1768-4	HAST	China	Guangdong	Qingyuan	Fogang	cp20B	23.6476	113.1608
Chung 1768-5	HAST	China	Guangdong	Qingyuan	Fogang	cp20B	23.6477	113.1608
Chung 1749-1	HAST	China	Guangdong	Shaoguan	Ruyuan	cp20C	24.9479	113.4199
Chung 1749-5_a	HAST	China	Guangdong	Shaoguan	Ruyuan	cp20C	24.9482	113.4199
Chung 1749-3	HAST	China	Guangdong	Shaoguan	Ruyuan	cp20E	24.9481	113.4199
Chung 1752-3	HAST	China	Guangdong	Shaoguan	Ruyuan	cp20E	25.1115	113.3405
Chung 1922-1	HAST	China	Yunnan	Honghe	Mile	cp20F	24.4773	103.4191
Chung 1922-2	HAST	China	Yunnan	Honghe	Mile	cp20F	24.4772	103.4191
China_yn01	TNM	China	Yunnan	Pu'er	Lancang	cp21A	22.2882	100.5781
China_yn02	TNM	China	Yunnan	Pu'er	Lancang	cp21A	22.2882	100.5781
China_yn03	TNM	China	Yunnan	Pu'er	Lancang	cp21A	22.2880	100.5781
Chung 1735-2	HAST	China	Guangdong	Huizhou	Huicheng	cp21A	23.1996	114.3674
Chung 1735-3	HAST	China	Guangdong	Huizhou	Huicheng	cp21A	23.1997	114.3674
Chung 1735-4	HAST	China	Guangdong	Huizhou	Huicheng	cp21A	23.1998	114.3674
Chung 1737-2	HAST	China	Guangdong	Guangzhou	Zengcheng	cp21A	23.1933	113.6751
Chung 1737-3	HAST	China	Guangdong	Guangzhou	Zengcheng	cp21A	23.1932	113.6751
Chung 1737-4	HAST	China	Guangdong	Guangzhou	Zengcheng	cp21A	23.1934	113.6751
Chung 1739-1	HAST	China	Guangdong	Guangzhou	Baiyun	cp21A	23.3649	113.4127
Chung 1739-2	HAST	China	Guangdong	Guangzhou	Baiyun	cp21A	23.3650	113.4127
Chung 1739-3	HAST	China	Guangdong	Guangzhou	Baiyun	cp21A	23.3651	113.4127
Chung 1740-1	HAST	China	Guangdong	Guangzhou	Conghua	cp21A	23.6834	113.4512
Chung 1740-2	HAST	China	Guangdong	Guangzhou	Conghua	cp21A	23.6835	113.4512
Chung 1740-3	HAST	China	Guangdong	Guangzhou	Conghua	cp21A	23.6836	113.4512
Chung 1740-4	HAST	China	Guangdong	Guangzhou	Conghua	cp21A	23.6837	113.4512
Chung 1740-5	HAST	China	Guangdong	Guangzhou	Conghua	cp21A	23.6838	113.4512
Chung 1740-6	HAST	China	Guangdong	Guangzhou	Conghua	cp21A	23.6839	113.4512

Chung 1743-2	HAST	China	Guangdong	Shaoguan	Qujiang	cp21A	24.6747	113.5803
Chung 1769-1	HAST	China	Guangdong	Guangzhou	Huadu	cp21A	23.4779	113.1240
Chung 1769-2	HAST	China	Guangdong	Guangzhou	Huadu	cp21A	23.4780	113.1240
Chung 1769-3	HAST	China	Guangdong	Guangzhou	Huadu	cp21A	23.4781	113.1240
Chung 1769-4	HAST	China	Guangdong	Guangzhou	Huadu	cp21A	23.4782	113.1240
Chung 1769-5_a	HAST	China	Guangdong	Guangzhou	Huadu	cp21A	23.4783	113.1240
Chung 1770-1	HAST	China	Guangdong	Guangzhou	Baiyun	cp21A	23.3127	113.2014
Chung 1770-2	HAST	China	Guangdong	Guangzhou	Baiyun	cp21A	23.3131	113.2014
Chung 1770-3	HAST	China	Guangdong	Guangzhou	Baiyun	cp21A	23.3128	113.2014
Chung 1770-4	HAST	China	Guangdong	Guangzhou	Baiyun	cp21A	23.3129	113.2014
Chung 1770-5	HAST	China	Guangdong	Guangzhou	Baiyun	cp21A	23.3130	113.2014
Chung 1775-1	HAST	China	Guangdong	Jiangmen	Pengjiang	cp21A	22.6044	113.0016
Chung 1775-2	HAST	China	Guangdong	Jiangmen	Pengjiang	cp21A	22.6045	113.0016
Chung 1775-4	HAST	China	Guangdong	Jiangmen	Pengjiang	cp21A	22.6046	113.0016
Chung 1775-5	HAST	China	Guangdong	Jiangmen	Pengjiang	cp21A	22.6047	113.0016
Chung 1777-1	HAST	China	Guangdong	Zhongshan	Nanlang	cp21A	22.4464	113.5255
Chung 1777-2	HAST	China	Guangdong	Zhongshan	Nanlang	cp21A	22.4465	113.5255
Chung 1779_1	HAST	China	Guangdong	Guangzhou	Nansha	cp21A	22.7918	113.5053
Chung 1779_2	HAST	China	Guangdong	Guangzhou	Nansha	cp21A	22.7919	113.5053
Chung 1779_3	HAST	China	Guangdong	Guangzhou	Nansha	cp21A	22.7920	113.5053
Chung 1779_4	HAST	China	Guangdong	Guangzhou	Nansha	cp21A	22.7921	113.5053
Chung 1779_5	HAST	China	Guangdong	Guangzhou	Nansha	cp21A	22.7922	113.5053
Chung 1780_1	HAST	China	Guangdong	Dongguan	Humen	cp21A	22.8392	113.6894
Chung 1780_2	HAST	China	Guangdong	Dongguan	Humen	cp21A	22.8392	113.6894
Chung 1780_3	HAST	China	Guangdong	Dongguan	Humen	cp21A	22.8392	113.6894
Chung 1780_4	HAST	China	Guangdong	Dongguan	Humen	cp21A	22.8392	113.6894
Chung 1782-1	HAST	China	Guangdong	Guangzhou	Luogang	cp21A	23.1389	113.5423
Chung 1782-2	HAST	China	Guangdong	Guangzhou	Luogang	cp21A	23.1390	113.5423
Chung 1782-3	HAST	China	Guangdong	Guangzhou	Luogang	cp21A	23.1391	113.5423
Chung 1782-4	HAST	China	Guangdong	Guangzhou	Luogang	cp21A	23.1392	113.5423
Chung 1782-5	HAST	China	Guangdong	Guangzhou	Luogang	cp21A	23.1393	113.5423
Chung 1854_a	HAST	China	Guangxi	Guilin	Yangshuo	cp21A	24.7453	110.4189

Chung_1720	HAST	China	Guangdong	Shanwei	Lufeng City	cp21A	22.9617	115.6574
Chung 1919-2	HAST	China	Yunnan	Honghe	Pingbian	cp21A	22.9277	103.2996
Chung 1919-5	HAST	China	Yunnan	Honghe	Pingbian	cp21A	22.9280	103.2996
Chung_1726_3	HAST	China	Fujian	Longyan	Liancheng	cp21A	25.4537	116.6705
Levine 1013	US	China	Guangdong	Guangzhou	Honan Island	cp21A	21.0457	105.7974
Peng 22596	HAST	China	Sichuan	Chengdu	Dujiangyan	cp21A	31.0080	103.6077
Peng 22606-1	HAST	China	Sichuan	Chengdu	Wuhou	cp21A	30.6297	104.0717
Zhu 409	MO	China	Sichuan	Dujianyen		cp21A	30.9906	103.6323
Zhu 87	MO	China	Sichuan	Dujianyen		cp21A	30.9906	103.6323
Chen 910756	MO	China	Gangshu	Wen County		cp21B	32.7784	105.1816
Chung 1778_1	HAST	China	Guangdong	Zhongshan	Nanlang	cp21C	22.6803	113.4775
Chung 1778_2	HAST	China	Guangdong	Zhongshan	Nanlang	cp21C	22.6804	113.4775
Chung 1778_3	HAST	China	Guangdong	Zhongshan	Nanlang	cp21C	22.6805	113.4775
Chung 1778_4	HAST	China	Guangdong	Zhongshan	Nanlang	cp21C	22.6806	113.4775
Chung 1818	HAST	China	Guangxi	Liuzhou	Liujiang	cp21C	24.3444	109.2128
Chung 1912-2	HAST	China	Yunnan	Honghe	Yuanyang	cp21D	23.2148	102.8456
Chung 1721_1	HAST	China	Fujian	Nanping	Jian'ou City	cp22	27.0421	118.3467
Chung 1721_2	HAST	China	Fujian	Nanping	Jian'ou City	cp22	27.0422	118.3467
Chung 1721_3	HAST	China	Fujian	Nanping	Jian'ou City	cp22	27.0423	118.3467
Chung 1721_4	HAST	China	Fujian	Nanping	Jian'ou City	cp22	27.0424	118.3467
Chung 1721_5	HAST	China	Fujian	Nanping	Jian'ou City	cp22	27.0425	118.3467
Chung 1722-2	HAST	China	Fujian	Nanping	Wuyishan City	cp23	26.6886	117.9906
Chung 1722-3	HAST	China	Fujian	Nanping	Wuyishan City	cp23	26.6885	117.9906
Chung 1722-4	HAST	China	Fujian	Nanping	Wuyishan City	cp23	26.6884	117.9906
Chung 1729_1	HAST	China	Guangdong	Meizhou	Xingning	cp24	24.1074	115.7567
Chung 1729_2	HAST	China	Guangdong	Meizhou	Xingning	cp24	24.1075	115.7567
Chung 1729_3	HAST	China	Guangdong	Meizhou	Xingning	cp24	24.1076	115.7567
Chung 1729_4	HAST	China	Guangdong	Meizhou	Xingning	cp24	24.1077	115.7567
Chung 1729_5	HAST	China	Guangdong	Meizhou	Xingning	cp24	24.1078	115.7567
Chung 1730_2	HAST	China	Guangdong	Heyuan	Dongyuan	cp25	23.7891	114.6846
Chung 1730_3	HAST	China	Guangdong	Heyuan	Dongyuan	cp25	23.7892	114.6846
Chung 1730_4	HAST	China	Guangdong	Heyuan	Dongyuan	cp25	23.7893	114.6846

Chung 1730_5	HAST	China	Guangdong	Heyuan	Dongyuan	cp25	23.7894	114.6846
Chung 1735-1	HAST	China	Guangdong	Huizhou	Huicheng	cp26	23.1995	114.3674
Chung 1741-1	HAST	China	Guangdong	Qingyuan	Yingde	cp27	24.1554	113.6593
Chung 1741-2	HAST	China	Guangdong	Qingyuan	Yingde	cp27	24.1555	113.6593
Chung 1741-3	HAST	China	Guangdong	Qingyuan	Yingde	cp27	24.1556	113.6593
Chung 1741-4	HAST	China	Guangdong	Qingyuan	Yingde	cp27	24.1557	113.6593
Chung 1741-5	HAST	China	Guangdong	Qingyuan	Yingde	cp27	24.1558	113.6593
Chung 1741-6	HAST	China	Guangdong	Qingyuan	Yingde	cp27	24.1559	113.6593
Chung 1742-1_a	HAST	China	Guangdong	Shaoguan	Wengyuan	cp27	24.4824	113.7840
Chung 1742-2	HAST	China	Guangdong	Shaoguan	Wengyuan	cp27	24.4825	113.7840
Chung 1742-3_a	HAST	China	Guangdong	Shaoguan	Wengyuan	cp27	24.4826	113.7840
Chung 1742-4_a	HAST	China	Guangdong	Shaoguan	Wengyuan	cp27	24.4827	113.7840
Chung 1742-5	HAST	China	Guangdong	Shaoguan	Wengyuan	cp27	24.4828	113.7840
Chung 1776	HAST	China	Guangdong	Zhongshan	Nanlang	cp28	22.4558	113.5478
Chung 1781-1	HAST	China	Guangdong	Dongguan	Humen	cp29	22.8786	113.6714
Chung 1781-2	HAST	China	Guangdong	Dongguan	Humen	cp29	22.8787	113.6714
Chung 1781-3	HAST	China	Guangdong	Dongguan	Humen	cp29	22.8788	113.6714
Chung 1781-4	HAST	China	Guangdong	Dongguan	Humen	cp29	22.8789	113.6714
Chung 1781-5	HAST	China	Guangdong	Dongguan	Humen	cp29	22.8790	113.6714
Chung_1725_5	HAST	China	Fujian	Longyan	Liancheng	cp29	25.6381	116.7246
Chung 1837	HAST	China	Guangdong	Qingyuan	Yangshan	cp30	24.6603	112.7506
Chung 1838	HAST	China	Guangdong	Qingyuan	Yangshan	cp31	24.6602	112.7673
Chung 1856-1	HAST	China	Guangxi	Guilin	Lipu	cp32	24.6264	110.3908
Chung 1856-3	HAST	China	Guangxi	Guilin	Lipu	cp32	24.6265	110.3908
China_yn44		China	Yunnan	Kunming	Wuhua	cp33A	25.0562	102.7013
China_yn45		China	Yunnan	Kunming	Wuhua	cp33A	25.0552	102.7020
China_yn46		China	Yunnan	Kunming	Wuhua	cp33A	25.0551	102.7020
Chung 1911-1	HAST	China	Yunnan	Honghe	Shiping	cp33B	23.8793	102.1653
Chung 1911-2	HAST	China	Yunnan	Honghe	Shiping	cp33B	23.8794	102.1653
China_yn32		China	Yunnan	Xishuangbanna	Mengla	cp34A	21.9264	101.2557
Chung 1913-1	HAST	China	Yunnan	Honghe	Yuanyang	cp34A	23.2100	102.7560
Chung 1913-2	HAST	China	Yunnan	Honghe	Yuanyang	cp34A	23.2101	102.7560

Chung 1913-4	HAST	China	Yunnan	Honghe	Yuanyang	cp34A	23.2102	102.7560
Chung 1914	HAST	China	Yunnan	Honghe	Gejiu	cp34A	23.1174	103.2909
Chung 1918-1	HAST	China	Yunnan	Honghe	Yuanyang	cp34A	23.1172	103.2908
Chung 1918-2	HAST	China	Yunnan	Honghe	Yuanyang	cp34A	23.1173	103.2908
Chung 1918-3	HAST	China	Yunnan	Honghe	Yuanyang	cp34A	23.1174	103.2908
Chung 1919-1	HAST	China	Yunnan	Honghe	Pingbian	cp34A	22.9276	103.2996
Chung 1919-3	HAST	China	Yunnan	Honghe	Pingbian	cp34A	22.9278	103.2996
Chung 1919-4	HAST	China	Yunnan	Honghe	Pingbian	cp34A	22.9279	103.2996
Chung 1920-1_a	HAST	China	Yunnan	Honghe	Hekou	cp34A	22.7466	103.9037
Chung 1920-2	HAST	China	Yunnan	Honghe	Hekou	cp34A	22.7467	103.9037
Chung 1920-3	HAST	China	Yunnan	Honghe	Hekou	cp34A	22.7468	103.9037
Chung 1920-4	HAST	China	Yunnan	Honghe	Hekou	cp34A	22.7469	103.9037
Peng 22965_1	HAST	China	Guangxi	Chongzuo	Longzhou	cp34A	22.3958	106.7009
Peng 22965_2	HAST	China	Guangxi	Chongzuo	Longzhou	cp34A	22.3959	106.7009
Peng 22965_3	HAST	China	Guangxi	Chongzuo	Longzhou	cp34A	22.3960	106.7009
China_yn04		China	Yunnan	Pu'er	Ximeng	cp35	22.6433	99.5896
China_yn06		China	Yunnan	Pu'er	Ximeng	cp35	22.6396	99.5903
China_yn07		China	Yunnan	Pu'er	Ximeng	cp35	22.6395	99.5903
China_yn08		China	Yunnan	Pu'er	Ximeng	cp35	22.6394	99.5903
China_yn09		China	Yunnan	Pu'er	Ximeng	cp35	22.6750	99.4873
China_yn10		China	Yunnan	Pu'er	Ximeng	cp35	22.6751	99.4873
China_yn11_a		China	Yunnan	Pu'er	Ximeng	cp35	22.6761	99.4882
China_yn13		China	Yunnan	Pu'er	Ximeng	cp35	22.7006	99.5266
China_yn14		China	Yunnan	Pu'er	Ximeng	cp35	22.7005	99.5266
China_yn15		China	Yunnan	Pu'er	Ximeng	cp35	22.6563	99.6086
China_yn16		China	Yunnan	Pu'er	Ximeng	cp35	22.6588	99.6036
China_yn20		China	Yunnan	Pu'er	Menglian	cp35	22.3333	99.6609
China_yn24		China	Yunnan	Pu'er	Lancang	cp35	22.1634	100.0147
China_yn25		China	Yunnan	Pu'er	Lancang	cp35	22.1633	100.0147
China_yn26_a		China	Yunnan	Pu'er	Lancang	cp35	22.1604	100.0161
China_yn27_a		China	Yunnan	Pu'er	Lancang	cp35	22.1605	100.0161
China_yn28		China	Yunnan	Pu'er	Lancang	cp35	22.1474	100.0151

China_yn30		China	Yunnan	Pu'er	Lancang	cp35	22.1475	100.0150
China_yn21_a		China	Yunnan	Pu'er	Lancang	cp36A	22.4609	100.0022
China_yn23		China	Yunnan	Pu'er	Lancang	cp36A	22.4608	100.0022
China_yn22		China	Yunnan	Pu'er	Lancang	cp36B	22.4610	100.0022
China_yn36		China	Yunnan	Xishuangbanna	Jinghong	cp37	21.9138	101.0598
China_yn37		China	Yunnan	Xishuangbanna	Jinghong	cp37	21.9128	101.0524
Peng 22606-2	HAST	China	Sichuan	Chengdu	Wuhou	cp38	30.6296	104.0717
Peng 22934_2	HAST	China	Guangxi	Chongzuo	Longzhou	cp39A	22.4292	106.8603
Peng 22951_1	HAST	China	Guangxi	Chongzuo	Longzhou	cp39A	22.4236	106.6433
Peng 22951_2	HAST	China	Guangxi	Chongzuo	Longzhou	cp39A	22.4237	106.6433
Peng 22951_3	HAST	China	Guangxi	Chongzuo	Longzhou	cp39A	22.4238	106.6433
Peng 22951_4	HAST	China	Guangxi	Chongzuo	Longzhou	cp39A	22.4239	106.6433
Chang_38	MO	China	Beijing			cp40	39.9959	116.3370
China_BJ		China	Beijing	Haidian		cp40	39.9959	116.3370
China_Xiangshan1		China	Beijing	Haidian		cp40	39.9893	116.2047
China_Xiangshan2		China	Beijing	Haidian		cp40	39.9894	116.2047
Liu 1321	MO	China	Shanxi			cp40	12.3059	109.1767
Wang G382	MO	China	Henan	Shangcheng		cp40	31.9617	115.4553
Dorsett 7005	US	China	Jilin	Western Hills		cp44	44.3167	125.9631
Chung_1726_1	HAST	China	Fujian	Longyan	Liancheng	cp45	25.4537	116.6705
Kuo 03084	MO	China	Shandong			cp47		
BQUCH0114		Fiji	Viti Levu/	Suva		cp17A	-18.1418	-178.4399
Smith 1907	NY	Fiji	Koro Island			cp17A	-17.3032	-179.4098
Stokes 136	US	French Polynesia	Austral Islands	Rurutu		cp17A	-18.6150	-150.9851
BQUCH0051		French Polynesia	Marquesas	Tahuata		cp17B	-9.9514	-139.0852
CSC002		Indonesia	Sulawesi	Tengah	Pandere	cp17D	21.6340	-158.0531
CSC003		Indonesia	Sulawesi	Tengah	Pandere	cp17D	21.6339	119.9427
CSC1		Indonesia	Sulawesi	Tengah	Pandere	cp17D	-1.2017	119.9427
CSC37		Indonesia	Sulawesi	Tengah	Bewa	cp17D	-1.2017	119.9427
CSC38		Indonesia	Sulawesi	Tengah	Bewa	cp17D	-1.8706	120.2643
CSC43		Indonesia	Sulawesi	Tengah	Gintu	cp17D	-1.8695	120.2646
CSC44		Indonesia	Sulawesi	Tengah	Gintu	cp17D	-1.8872	120.2396

CSC55-1		Indonesia	Sulawesi	Tengah	Lengkeka	cp17D	-1.8871	120.2396
CSC55-2		Indonesia	Sulawesi	Tengah	Lengkeka	cp17D	-1.8715	120.2105
CSC55-3		Indonesia	Sulawesi	Tengah	Lengkeka	cp17D	-1.8714	120.2105
CSC56		Indonesia	Sulawesi	Tengah	Lengkeka	cp17D	-1.8713	120.2105
CSC59-1		Indonesia	Sulawesi	Tengah	Gintu	cp17D	-1.8712	120.2105
CSC59-2		Indonesia	Sulawesi	Tengah	Gintu	cp17D	-1.8783	120.2447
CSC59-3		Indonesia	Sulawesi	Tengah	Gintu	cp17D	-1.8784	120.2447
CSC59-4		Indonesia	Sulawesi	Tengah	Gintu	cp17D	-1.8785	120.2447
CSC59-5		Indonesia	Sulawesi	Tengah	Gintu	cp17D	-1.8786	120.2447
Chung 2367	HAST	Japan	Yaeyama	Ishigaki		cp05B	24.5808	124.3069
Chung 2368	HAST	Japan	Yaeyama	Ishigaki		cp05B	24.5859	124.3166
Chung 2369	HAST	Japan	Yaeyama	Ishigaki		cp05B	24.5210	124.2829
Chung 2369	HAST	Japan	Yaeyama	Ishigaki		cp05B	24.5210	124.2829
Chung 2369	HAST	Japan	Yaeyama	Ishigaki		cp05B	24.5210	124.2829
Chung 2370	HAST	Japan	Yaeyama	Ishigaki		cp05B	24.4354	124.2489
Chung 2371	HAST	Japan	Yaeyama	Ishigaki		cp05B	24.3657	124.1112
Chung 2371	HAST	Japan	Yaeyama	Ishigaki		cp05B	24.3657	124.1112
Chung 2371	HAST	Japan	Yaeyama	Ishigaki		cp05B	24.3657	124.1112
Chung 2371	HAST	Japan	Yaeyama	Ishigaki		cp05B	24.3657	124.1112
Chung 2377	HAST	Japan	Yaeyama	Taketomi		cp05B	24.3335	124.0909
Chung 2377	HAST	Japan	Yaeyama	Taketomi		cp05B	24.3335	124.0909
Chung 2377	HAST	Japan	Yaeyama	Taketomi		cp05B	24.3335	124.0909
Chung 2377	HAST	Japan	Yaeyama	Taketomi		cp05B	24.3335	124.0909
Chung 2383	HAST	Japan	Yaeyama	Iriomote		cp05B	24.3874	123.7476
Chung 2383	HAST	Japan	Yaeyama	Iriomote		cp05B	24.3874	123.7476
Chung 2383	HAST	Japan	Yaeyama	Iriomote		cp05B	24.3874	123.7476
Nakamura 12910	HAST	Japan	Okinawa	Kurima Island		cp05B	24.7214	125.2566
Nakamura 12911	HAST	Japan	Okinawa	Kurima Island		cp05B	24.7214	125.2566
Nakamura 12912	HAST	Japan	Okinawa	Kurima Island		cp05B	24.7214	125.2566
liu 30-2		Japan	Tokyo	Bunkyo	Tokyo University	cp28	35.7218	139.7620
liu 30-3		Japan	Tokyo	Bunkyo	Tokyo University	cp28	35.7218	139.7620

liu 30		Japan	Tokyo	Bunkyo	Tokyo University	cp42	35.7218	139.7620
Moore 406	US	Niue				cp17A	-19.0897	-169.8173
Brass 30768	US	Papua New Guinea	Eastern highland			cp17C	-5.7686	145.0333
Jermy 4345	BM	Papua New Guinea	Finisterre Range	upper Naho Valley	near Moro Village	cp34C	-6.0694	146.2864
Pullen 6192	BM	Papua New Guinea	Finisterre Range	upper Naho Valley	near Moro Village	cp34C	-6.0694	146.2864
Chung 2018_2	HAST	Philippines	Luzon/Laguna	Los Baños		cp20A	14.1677	121.2428
Chung 2019_8	HAST	Philippines	Luzon/Laguna	Calamba		cp20A	14.1738	121.1914
Chung 2018_1	HAST	Philippines	Luzon	Laguna	Los Baños	cp21A	14.1667	121.2428
Chung 2018_3	HAST	Philippines	Luzon/Laguna	Los Baños		cp43	14.1687	121.2428
Chung 2019_2	HAST	Philippines	Luzon/Laguna	Calamba		cp43	14.1736	121.1914
Chung 2019_4	HAST	Philippines	Luzon/Laguna	Calamba		cp43	14.1735	121.1914
Chung 2019_6	HAST	Philippines	Luzon/Laguna	Calamba		cp43	14.1734	121.1914
Chung 2019_7	HAST	Philippines	Luzon/Laguna	Calamba		cp43	14.1737	121.1914
Pc_136		Pitcairn				cp17A	-25.0654	-130.0993
BQUCH0068		Samoa	Upolu			cp17A	-13.9134	-171.7349
Yang 23448	TNM	Solomon Islands	Guadalcanal	Honiara	Kukum Hwy	cp21A	-9.4300	159.9478
Yang 23449	TNM	Solomon Islands	Guadalcanal	Honiara	Kukum Hwy	cp21A	-9.4300	159.9478
42_Hsinwu	HAST	Taiwan	Taoyuan	Hsinwu		cp01A	24.9486	121.0747
A15-1	HAST	Taiwan	Taipei	Tamsui		cp01A	25.1410	121.4615
A17-2	HAST	Taiwan	Taipei	Jinshan		cp01A	25.1704	121.5384
A2-1	HAST	Taiwan	Taipei	Pinglin		cp01A	24.8867	121.6666
A23-1	HAST	Taiwan	Taipei	Gongliao		cp01A	25.0174	121.9446
A23-2	HAST	Taiwan	Taipei	Gongliao		cp01A	25.0174	121.9446
A23-3	HAST	Taiwan	Taipei	Gongliao		cp01A	25.0174	121.9446
A3-1♀	HAST	Taiwan	Taipei	Shiding		cp01A	24.9595	121.6133
A34-2	HAST	Taiwan	Taipei	Sanxia		cp01A	24.8304	121.4447
A5	HAST	Taiwan	Taipei	Xindian		cp01A	24.9532	121.5923
A6-1♀	HAST	Taiwan	Taipei	Xindian		cp01A	24.8902	121.5513
A7-1♀	HAST	Taiwan	Taipei	Wulai		cp01A	24.8507	121.5698
A8-1	HAST	Taiwan	Taipei	Wulai		cp01A	24.8533	121.5489
Chung 2665_1	HAST	Taiwan	Yilan			cp01A	24.6152	121.4840
Chung 2665_2	HAST	Taiwan	Yilan			cp01A	24.6152	121.4840

Chung 2665_3	HAST	Taiwan	Yilan			cp01A	24.6152	121.4840
Chung 2666_1	HAST	Taiwan	Yilan			cp01A	24.6860	121.7130
Chung 2666_2	HAST	Taiwan	Yilan			cp01A	24.6860	121.7130
Chung 2667_1	HAST	Taiwan	Yilan			cp01A	24.6860	121.7127
Chung 2667_2	HAST	Taiwan	Yilan			cp01A	24.6860	121.7127
Chung 2668_1	HAST	Taiwan	Yilan			cp01A	24.6859	121.7514
Chung 2668_2	HAST	Taiwan	Yilan			cp01A	24.6859	121.7514
Chung 2668_3	HAST	Taiwan	Yilan			cp01A	24.6859	121.7514
Chung 2669_1	HAST	Taiwan	Yilan			cp01A	24.7414	121.7719
Chung 2669_2	HAST	Taiwan	Yilan			cp01A	24.7414	121.7719
Chung 2669_3	HAST	Taiwan	Yilan			cp01A	24.7414	121.7719
D115-2	HAST	Taiwan	Taoyuan	Fuxing		cp01A	24.7821	121.3583
D115-3	HAST	Taiwan	Taoyuan	Fuxing		cp01A	24.7822	121.3583
E90-4	HAST	Taiwan	Hsinchu	Paoshan		cp01A	24.7552	121.0070
E91-2	HAST	Taiwan	Hsinchu	Qionglin		cp01A	24.7669	121.0806
E92-1	HAST	Taiwan	Hsinchu	Guanxi		cp01A	24.7682	121.2168
F57-1	HAST	Taiwan	Miaoli	Tongxiao		cp01A	24.4797	120.6785
F59-2_a	HAST	Taiwan	Miaoli	Toufen		cp01A	24.6772	120.8969
F60-2	HAST	Taiwan	Miaoli	Sanwan		cp01A	24.6028	120.9585
F61-2	HAST	Taiwan	Miaoli	Sanwan		cp01A	24.4639	120.8854
G19-1	HAST	Taiwan	Yilan	Datong		cp01A	24.6627	121.5896
G24-1	HAST	Taiwan	Taichung	Heping		cp01A	24.2169	120.8894
G56-2	HAST	Taiwan	Taichung	Dajia		cp01A	24.3451	120.6245
H33	HAST	Taiwan	Hualien	Xincheng		cp01A	24.2394	121.7158
N27	HAST	Taiwan	Hualien	Zhuoxi		cp01A	23.3185	121.2191
N69-1	HAST	Taiwan	Hualien	Fengbin		cp01A	23.5652	121.5174
N69-2	HAST	Taiwan	Hualien	Fengbin		cp01A	23.5650	121.5174
Q100_1	HAST	Taiwan	Yilan	Datong		cp01A	24.5350	121.5073
A4-1♀	HAST	Taiwan	Taipei	Xindian		cp02	24.9554	121.5029
F62-2	HAST	Taiwan	Miaoli	Zhuolan		cp03	24.3332	120.8081
G11-3	HAST	Taiwan	Taichung	Xinshe		cp03	24.1550	120.8928
E89-1_a	HAST	Taiwan	Hsinchu	Hsinchu City		cp04	24.7349	120.9135

D28	HAST	Taiwan	Taoyuan	Fuxing		cp05A	24.8305	121.3491
H66-2	HAST	Taiwan	Hualien	Hualien City		cp05A	23.9808	121.6159
H66-3	HAST	Taiwan	Hualien	Hualien City		cp05A	23.9808	121.6159
H66-5_a	HAST	Taiwan	Hualien	Hualien City		cp05A	23.9808	121.6159
H93	HAST	Taiwan	Hualien	Zhuoxi		cp05A	23.3184	121.2189
N72-2	HAST	Taiwan	Hualien	Yuli		cp05A	23.2828	121.3243
N72-3	HAST	Taiwan	Hualien	Yuli		cp05A	23.2828	121.3243
N72-4	HAST	Taiwan	Hualien	Yuli		cp05A	23.2828	121.3243
N72-5	HAST	Taiwan	Hualien	Yuli		cp05A	23.2828	121.3243
N75-2	HAST	Taiwan	Taitung	Luye		cp05A	22.8959	121.1235
N75-3	HAST	Taiwan	Taitung	Luye		cp05A	22.8959	121.1235
N95_a	HAST	Taiwan	Taitung	Changbin		cp05A	23.2853	121.4187
H36-1	HAST	Taiwan	Hualien	Xincheng		cp06	24.1560	121.6177
H36-2_a	HAST	Taiwan	Hualien	Xincheng		cp06	24.1561	121.6177
H36-3	HAST	Taiwan	Hualien	Xincheng		cp06	24.1563	121.6177
H36-4	HAST	Taiwan	Hualien	Xincheng		cp06	24.1564	121.6177
H37-2	HAST	Taiwan	Hualien	Xincheng		cp06	24.0461	121.6175
H66-1	HAST	Taiwan	Hualien	Hualien City		cp06	23.9808	121.6159
H66-4	HAST	Taiwan	Hualien	Hualien City		cp06	23.9808	121.6159
H36-5	HAST	Taiwan	Hualien	Xincheng		cp07	24.1562	121.6177
N97	HAST	Taiwan	Taitung	Guanshan		cp08	23.1356	121.0522
G11-4♀	HAST	Taiwan	Taichung	Xinshe		cp09A	24.1555	120.8928
G11-5	HAST	Taiwan	Taichung	Xinshe		cp09A	24.1555	120.8928
G55-2	HAST	Taiwan	Taichung	Wuqi		cp09A	24.2552	120.5255
K107-2	HAST	Taiwan	Tainan	Nanhua		cp09A	23.0769	120.4950
K107-3	HAST	Taiwan	Tainan	Nanhua		cp09A	23.0779	120.4950
K113-1♀	HAST	Taiwan	Tainan	Qigu		cp09A	23.1598	120.1347
K113-2	HAST	Taiwan	Tainan	Qigu		cp09A	23.1608	120.1347
K113-3♀	HAST	Taiwan	Tainan	Qigu		cp09A	23.1618	120.1347
K113-4	HAST	Taiwan	Tainan	Qigu		cp09A	23.1628	120.1347
K114-3	HAST	Taiwan	Tainan	Qigu		cp09A	23.1836	120.3126
L110-1	HAST	Taiwan	Kaohsiung	Meinong		cp09A	22.8582	120.5656

L110-2	HAST	Taiwan	Kaohsiung	Meinong		cp09A	22.8592	120.5656
L110-3	HAST	Taiwan	Kaohsiung	Meinong		cp09A	22.8602	120.5656
L110-4	HAST	Taiwan	Kaohsiung	Meinong		cp09A	22.8612	120.5656
L110-5	HAST	Taiwan	Kaohsiung	Meinong		cp09A	22.8622	120.5656
M111-2	HAST	Taiwan	Pingtung	Yanpu		cp09A	22.7455	120.5612
M112-1♀	HAST	Taiwan	Kaohsiung	Daliao		cp09A	22.5954	120.4195
M112-2♀	HAST	Taiwan	Kaohsiung	Daliao		cp09A	22.5953	120.4195
M112-3♀	HAST	Taiwan	Kaohsiung	Daliao		cp09A	22.5952	120.4195
K102-1♂	HAST	Taiwan	Tainan	Rende		cp09B	22.9503	120.2189
K102-3	HAST	Taiwan	Tainan	Rende		cp09B	22.9504	120.2189
K102-4♂	HAST	Taiwan	Tainan	Rende		cp09B	22.9504	120.2189
K102-5♂	HAST	Taiwan	Tainan	Rende		cp09B	22.9504	120.2189
K103-2♀	HAST	Taiwan	Kaohsiung	Ciaotou		cp09B	22.7446	120.3165
K103-5♀	HAST	Taiwan	Kaohsiung	Ciaotou		cp09B	22.7448	120.3165
K107-1	HAST	Taiwan	Tainan	Nanhua		cp09B	23.0759	120.4950
L104-2♀	HAST	Taiwan	Kaohsiung	Sanmin		cp09B	22.6536	120.3133
L104-3	HAST	Taiwan	Kaohsiung	Sanmin		cp09B	22.6535	120.3133
L104-5♀	HAST	Taiwan	Kaohsiung	Sanmin		cp09B	22.6533	120.3133
LD_1	HAST	Taiwan	Taitung	Ludao		cp09B	22.6585	121.4850
MF3_a	HAST	Taiwan	Pingtung	Fangshan		cp09B	22.4040	120.6931
MH01_a	HAST	Taiwan	Pingtung	Hengchun		cp09B	21.9587	120.7373
MH02	HAST	Taiwan	Pingtung	Hengchun		cp09B	21.9586	120.7373
MS1	HAST	Taiwan	Pingtung	Fangliao		cp09B	22.4010	120.5899
N79-1_a	HAST	Taiwan	Taitung	Taimali		cp09B	22.6225	121.0110
K108-2	HAST	Taiwan	Kaohsiung	Jiasian		cp09C	23.0807	120.5949
K108-3	HAST	Taiwan	Kaohsiung	Jiasian		cp09C	23.0817	120.5949
K108-5	HAST	Taiwan	Kaohsiung	Jiasian		cp09C	23.0800	120.5949
L109-2♀	HAST	Taiwan	Kaohsiung	Cishan		cp09C	22.9542	120.5133
L109-4♀	HAST	Taiwan	Kaohsiung	Cishan		cp09C	22.9552	120.5133
L109-5♀	HAST	Taiwan	Kaohsiung	Cishan		cp09C	22.9562	120.5133
M31-1	HAST	Taiwan	Pingtung	Sandimen		cp09C	22.7094	120.6742
P25-1	HAST	Taiwan	Nantou	Ren'ai		cp09C	24.0378	121.1451

K113-5	HAST	Taiwan	Tainan	Qigu		cp09D	23.1638	120.1347
I45-2	HAST	Taiwan	Yunlin	Lunbei		cp10	23.7570	120.3638
J51-1	HAST	Taiwan	Chiayi	Jhongpu		cp11	23.4420	120.5179
H41-1	HAST	Taiwan	Changhua	Dacheng		cp12	23.8615	120.2954
H41-2	HAST	Taiwan	Changhua	Dacheng		cp12	23.8614	120.2954
H41-3_a	HAST	Taiwan	Changhua	Dacheng		cp12	23.8613	120.2954
I49-2	HAST	Taiwan	Yunlin	Dounan		cp12	23.6753	120.4761
I53-3	HAST	Taiwan	Yunlin	Douliou		cp12	23.7189	120.5743
I53-4	HAST	Taiwan	Yunlin	Douliou		cp12	23.7190	120.5743
NCJH24	HAST	Taiwan	Taitung	Taitung City		cp12	22.7600	121.1630
P54-2_a	HAST	Taiwan	Nantou	Jhushan		cp12	23.7776	120.7125
Chung 1931	HAST	Taiwan	Penghu	Penghu		cp13	23.5637	119.6435
H39-2	HAST	Taiwan	Changhua	Fusing		cp13	24.0468	120.4503
I43-2	HAST	Taiwan	Yunlin	Dongshih		cp13	23.6575	120.2715
J51-3_a	HAST	Taiwan	Chiayi	Jhongpu		cp13	23.4421	120.5179
J52-2	HAST	Taiwan	Chiayi	Meishan		cp13	23.5901	120.5424
K105-1	HAST	Taiwan	Tainan	Yongkang		cp14A	23.0008	120.2352
K105-2	HAST	Taiwan	Tainan	Yongkang		cp14B	23.0009	120.2352
K105-3	HAST	Taiwan	Tainan	Yongkang		cp14C	23.0010	120.2352
K105-4♂	HAST	Taiwan	Tainan	Yongkang		cp14C	23.0015	120.2352
NL01	HAST	Taiwan	Taitung	Lanyu		cp15	22.0280	121.5522
K106-1	HAST	Taiwan	Tainan	Zuozhen		cp16A	23.0663	120.3809
K106-2	HAST	Taiwan	Tainan	Zuozhen		cp16A	23.0662	120.3809
K106-3	HAST	Taiwan	Tainan	Zuozhen		cp16A	23.0662	120.3809
K106-4_a	HAST	Taiwan	Tainan	Zuozhen		cp16A	23.0662	120.3809
K106-5	HAST	Taiwan	Tainan	Zuozhen		cp16A	23.0663	120.3809
K114-2	HAST	Taiwan	Tainan	Qigu		cp16A	23.1837	120.3128
K114-4	HAST	Taiwan	Tainan	Qigu		cp16A	23.1838	120.3135
M111-1♂	HAST	Taiwan	Pingtung	Yanpu		cp16A	22.7445	120.5612
M111-3_a♀	HAST	Taiwan	Pingtung	Yanpu		cp16A	22.7465	120.5612
M111-4_a♀	HAST	Taiwan	Pingtung	Yanpu		cp16A	22.7475	120.5612
M111-5	HAST	Taiwan	Pingtung	Yanpu		cp16A	22.7485	120.5612

M93-1	HAST	Taiwan	Pingtung	Laiyi		cp16A	22.5268	120.6390
N29	HAST	Taiwan	Taitung	Beinan		cp16A	22.7549	121.0564
N75-1	HAST	Taiwan	Taitung	Luye		cp16A	22.8959	121.1235
N75-4	HAST	Taiwan	Taitung	Luye		cp16A	22.8960	121.1235
N77-1	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7849	121.1291
N77-4	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7848	121.1291
N80-1	HAST	Taiwan	Taitung	Dawu		cp16A	22.4554	120.9430
N94	HAST	Taiwan	Taitung	Yanping		cp16A	22.9140	121.0412
N96	HAST	Taiwan	Taitung	Guanshan		cp16A	23.1190	121.1181
NCJH10	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7543	121.1464
NCJH11	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7553	121.1464
NCJH12	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7563	121.1464
NCJH13	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7573	121.1464
NCJH14	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7583	121.1464
NCJH15	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7593	121.1464
NCJH16_a	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7520	121.1437
NCJH17	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7530	121.1437
NCJH18	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7540	121.1437
NCJH19	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7550	121.1437
NCJH20_a	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7560	121.1437
NCJH21	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7570	121.1630
NCJH22	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7580	121.1630
NCJH23	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7590	121.1630
NCJH9	HAST	Taiwan	Taitung	Taitung City		cp16A	22.7533	121.1464
NL02	HAST	Taiwan	Taitung	Lanyu		cp16A	22.0281	121.5522
K103-1	HAST	Taiwan	Kaohsiung	Ciaotou		cp16B	22.7447	120.3165
K103-3	HAST	Taiwan	Kaohsiung	Ciaotou		cp16B	22.7448	120.3165
K103-4	HAST	Taiwan	Kaohsiung	Ciaotou		cp16B	22.7448	120.3165
K107-4	HAST	Taiwan	Tainan	Nanhua		cp17A	23.0789	120.4950
K107-5_a	HAST	Taiwan	Tainan	Nanhua		cp17A	23.0799	120.4950
M81-1	HAST	Taiwan	Pingtung	Fangshan		cp17A	22.2427	120.6652
M81-4	HAST	Taiwan	Pingtung	Fangshan		cp17A	22.2426	120.6652

M83-1_a♂	HAST	Taiwan	Pingtung	Pingtung City		cp17A	22.6945	120.4924
MF1	HAST	Taiwan	Pingtung	Fangshan		cp17A	22.4030	120.6931
MS3	HAST	Taiwan	Pingtung	Fangliao		cp17A	22.4020	120.5899
N74-1	HAST	Taiwan	Taitung	Guanshan		cp17A	23.0196	121.1533
L104-4	HAST	Taiwan	Kaohsiung	Sanmin		cp18	22.6534	120.3133
MW02	HAST	Taiwan	Pingtung	Wandan		cp19	22.5631	120.4979
Chung_2418	HAST	Taiwan (R.O.C.)	Fujian	Lianjiang	Machu	cp46	26.2291	119.9966
Chung_2419	HAST	Taiwan (R.O.C.)	Fujian	Lianjiang	Machu	cp46	26.2291	119.9966
Chung_2420	HAST	Taiwan (R.O.C.)	Fujian	Lianjiang	Machu	cp46	26.2291	119.9966
Chung_2421	HAST	Taiwan (R.O.C.)	Fujian	Lianjiang	Machu	cp46	26.2291	119.9966
Chung_2422	HAST	Taiwan (R.O.C.)	Fujian	Lianjiang	Machu	cp46	26.2291	119.9966
Chung_2423	HAST	Taiwan (R.O.C.)	Fujian	Lianjiang	Machu	cp46	26.2291	119.9966
Chung_2424	HAST	Taiwan (R.O.C.)	Fujian	Lianjiang	Machu	cp46	26.2291	119.9966
Chung 2697	HAST	Taiwan (R.O.C.)	Fujian	Kinmen	Kincheng	cp48	24.4395	118.3176
Chung 2698	HAST	Taiwan (R.O.C.)	Fujian	Kinmen	Kinning	cp48	24.4782	118.3134
Chung 2699	HAST	Taiwan (R.O.C.)	Fujian	Kinmen	Kinning	cp48	24.4782	118.3134
Chung 2700	HAST	Taiwan (R.O.C.)	Fujian	Kinmen	Kinning	cp48	24.4782	118.3134
Phutthai 263	PSU	Thailand	Bangkok	Nakhon Pathom		cp20A	13.9381	100.1060
Phutthai 265	PSU	Thailand	Bangkok	Nakhon Pathom		cp20A	13.9381	100.1060
Soejarto_6059	MO	Thailand	Saraburi	Muaklek District		cp20A	14.0667	101.1667
BQUCH0104		Tonga	Tongatapu	Vaini		cp17A	-21.1936	-175.1771
BQUCH0110		Tonga	Tongatapu	Pelehake		cp17A	-21.2170	-175.1395
BQUCH0363		Tonga	Eua	lakufaaga		cp17A	-21.3957	-174.9359
Yuncker 15471	US	Tonga	Eua Island			cp17A	-21.3927	-174.9195
Yuncker 15177	NY	Tonga	Tongatapu			cp17A	-21.1302	-175.2523
BQUCH0059		USA	Hawaii	Hawaii	Kealakekua	cp17A	19.5270	-155.9134
Brown 1274	NY	USA	Hawaii	Oahu	Napooqoo	cp17A	21.3751	-157.9096
csa-bm-059	TNM	USA	Hawaii	Oahu	Bishop Museum	cp17A	21.3332	-157.8885
csa-bm-060	TNM	USA	Hawaii	Oahu	Bishop Museum	cp17A	21.3333	-157.8885
csa-dt-093	TNM	USA	Hawaii	Oahu		cp17A	21.4371	-157.9935
csa-dt-094	TNM	USA	Hawaii	Oahu		cp17A	21.4372	-157.9935
csa-gw-077	TNM	USA	Hawaii	Hawaii	Amy B. H. Greenwell BG	cp17A	19.9872	-155.9138

csa-gw-078	TNM	USA	Hawaii	Hawaii	Amy B. H. Greenwell BG	cp17A	19.9873	-155.9138
csa-gw-079	TNM	USA	Hawaii	Hawaii	Amy B. H. Greenwell BG	cp17A	19.9874	-155.9138
csa-gw-080	TNM	USA	Hawaii	Hawaii	Amy B. H. Greenwell BG	cp17A	19.9875	-155.9138
csa-gw-081	TNM	USA	Hawaii	Hawaii	Amy B. H. Greenwell BG	cp17A	19.9876	-155.9138
csa-gw-082	TNM	USA	Hawaii	Hawaii	Amy B. H. Greenwell BG	cp17A	19.9877	-155.9138
csa-gw-083	TNM	USA	Hawaii	Hawaii	Amy B. H. Greenwell BG	cp17A	19.9878	-155.9138
csa-gw-084	TNM	USA	Hawaii	Hawaii	Amy B. H. Greenwell BG	cp17A	19.9879	-155.9138
csa-h-106	TNM	USA	Hawaii	Oahu	University of Hawaii	cp17A	21.2975	-157.8146
csa-ki-100	TNM	USA	Hawaii	Kauai	NTBG National Headquarters	cp17A	21.9080	-159.5121
csa-lc-101	TNM	USA	Hawaii	Oahu	Pearl City, Leeward Community College	cp17A	21.3917	-157.9860
csa-lc-103	TNM	USA	Hawaii	Oahu	Pearl City, Leeward Community College	cp17A	21.3918	-157.9860
csa-lc-104	TNM	USA	Hawaii	Oahu	Pearl City, Leeward Community College	cp17A	21.3919	-157.9860
csa-mk-088	TNM	USA	Hawaii	Maui	NTBG Kahanu Garden	cp17A	20.6529	-156.0573
csa-mk-089	TNM	USA	Hawaii	Maui	NTBG Kahanu Garden	cp17A	20.6530	-156.0573
csa-mk-090	TNM	USA	Hawaii	Maui	NTBG Kahanu Garden	cp17A	20.6531	-156.0573
csa-mk-091	TNM	USA	Hawaii	Maui	NTBG Kahanu Garden	cp17A	20.6532	-156.0573
csa-un-048	TNM	USA	Hawaii	Oahu	University of Hawaii	cp17A	21.3015	-157.8150
csa-un-050	TNM	USA	Hawaii	Oahu	University of Hawaii	cp17A	21.3014	-157.8150
csa-un-055	TNM	USA	Hawaii	Oahu	University of Hawaii	cp17A	21.2955	-157.8123
Degener 8684	US	USA	Hawaii	Oahu		cp17A	21.3751	-157.9096
Degener 8688	NY, US	USA	Hawaii	Molokai		cp17A	21.1299	-157.0551
Rankin s.n.	NY	USA	Hawaii	Oahu		cp17A	21.3751	-157.9096
Rock 3662	US	USA	Hawaii	Hawaii	Puu Anahulu settlement	cp17A	19.7146	-155.1018
Yuncker 9204	NY	USA	American Samoa	Tau Island		cp17A	-14.2181	-169.4240
Degener 8683	US	USA	Hawaii	Oahu		cp17D	21.4374	-157.9935
Brown 1273	NY	USA	Hawaii	Oahu	Napooqoo	cp17E	21.4374	-157.9935
Christophersen 3719	US	USA	Hawaii	Oahu	Waianae Mts.	cp17E	21.4374	-157.9935
csa-dt-096	TNM	USA	Hawaii	Oahu		cp17F	21.4374	-157.9935
Degener 8687	NY	USA	Hawaii	Moloka		cp20A	21.1088	-157.0496
csa-bm-061	TNM	USA	Hawaii	Oahu	Bishop Museum	cp41A	21.3334	-157.8885
csa-bm-098	TNM	USA	Hawaii	Oahu	Bishop Museum	cp41B	21.3332	-157.8718

csa-dt-095	TNM	USA	Hawaii	Oahu		cp41B	21.4373	-157.9935
csa-gw-073	TNM	USA	Hawaii	Hawaii	Amy B. H. Greenwell BG	cp41B	19.9869	-155.9138
csa-gw-074	TNM	USA	Hawaii	Hawaii	Amy B. H. Greenwell BG	cp41B	19.9870	-155.9138
csa-gw-076	TNM	USA	Hawaii	Hawaii	Amy B. H. Greenwell BG	cp41B	19.9871	-155.9138
csa-h-108	TNM	USA	Hawaii	Oahu	Bishop Museum	cp41B	21.3333	-157.8705
csa-lu-062	TNM	USA	Hawaii	Oahu	Lili'UOKALANI BG	cp41B	21.3185	-157.8571
csa-lu-063	TNM	USA	Hawaii	Oahu	Lili'UOKALANI BG	cp41B	21.3185	-157.8571
csa-lu-064	TNM	USA	Hawaii	Oahu	Lili'UOKALANI BG	cp41B	21.3184	-157.8571
csa-lu-065	TNM	USA	Hawaii	Oahu	Lili'UOKALANI BG	cp41B	21.3186	-157.8571
csa-lu-066	TNM	USA	Hawaii	Oahu	Lili'UOKALANI BG	cp41B	21.3186	-157.8571
csa-un-054	TNM	USA	Hawaii	Oahu	University of Hawaii	cp41B	21.2954	-157.8123
csa-un-056	TNM	USA	Hawaii	Oahu	University of Hawaii	cp41B	21.2956	-157.8123
csa-wv-067	TNM	USA	Hawaii	Oahu	Waimea Valley	cp41B	21.2957	-157.8123
csa-wv-068	TNM	USA	Hawaii	Oahu	Waimea Valley	cp41B	21.6335	-158.0531
csa-wv-069	TNM	USA	Hawaii	Oahu	Waimea Valley	cp41B	21.6336	-158.0531
csa-wv-070	TNM	USA	Hawaii	Oahu	Waimea Valley	cp41B	21.6337	-158.0531
csa-wv-071	TNM	USA	Hawaii	Oahu	Waimea Valley	cp41B	21.6338	-158.0531
csa-wv-072	TNM	USA	Hawaii	Oahu	Waimea Valley	cp41B	21.6339	-158.0531
csa-dt-097	TNM	USA	Hawaii	Oahu		cp41C	21.4375	-157.9935
Liu 119_1	HAST	Vietnam	Ninh Binh	Hoa Lu		cp20A	21.0246	105.8591
Liu 126_1	HAST	Vietnam	Khánh Hòa	Nha Trang		cp20A	17.6620	106.5114
Liu 126_2	HAST	Vietnam	Khánh Hòa	Nha Trang		cp20A	12.1128	109.1261
Liu 126_3	HAST	Vietnam	Khánh Hòa	Nha Trang		cp20A	12.1128	109.1261
Liu 127	HAST	Vietnam	Khánh Hòa	Cam Lâm		cp20A	12.1128	109.1261
Liu 128_2	HAST	Vietnam	Khánh Hòa	Diên Khánh		cp20A	12.2052	109.0724
Liu 129	HAST	Vietnam	Khánh Hòa	Nha Trang		cp20A	12.2052	109.0724
Liu 131_2	HAST	Vietnam	Khánh Hòa	Nha Trang		cp20A	12.3059	109.1767
Liu BN1	HAST	Vietnam	Bac Ninh	Bắc Ninh		cp20A	21.1673	106.0458
Liu HN1	HAST	Vietnam	Hà Nội	Long Biên		cp20A	21.0515	105.8970
Liu HN2	HAST	Vietnam	Hà Nội	Từ Liêm		cp20A	21.0811	105.7872
Liu HN3	HAST	Vietnam	Hà Nội	Gia Lâm		cp20A	21.0210	105.9377
Liu HN4	HAST	Vietnam	Hà Nội	Long Biên		cp20A	21.0247	-74.0928

Liu HN6	HAST	Vietnam	Bắc Ninh	Từ Sơn		cp20A	21.0990	-74.0607
Liu 130	HAST	Vietnam	Khánh Hòa	Nha Trang		cp20D	12.2937	109.1870
Liu Viet117_1	HAST	Vietnam	Hà Nội	Cầu Giấy		cp21D	21.0457	105.7974
Liu Viet117_2	HAST	Vietnam	Hà Nội	Cầu Giấy		cp21D	21.0457	105.7974
Liu VietBL3	HAST	Vietnam	Hà Nội	Hà Đông		cp21D	20.9487	105.7467
Liu VietHN5	HAST	Vietnam	Hà Nội	Gia Lâm		cp21D	21.0791	-74.0907
Liu VietHN5f	HAST	Vietnam	Hà Nội	Gia Lâm		cp21D	21.0791	-74.0900
Liu VietLL	HAST	Vietnam	Hà Nội	Long Biên		cp21D	21.0288	-74.0880
Liu VietNB	HAST	Vietnam	Hà Nội	Phú Cường		cp21D	21.2040	-74.2205
Liu 120_1	HAST	Vietnam	Tuyên Quang	Tuyên Quang		cp34A	20.2842	105.9066
Liu 120_2	HAST	Vietnam	Tuyên Quang	Tuyên Quang		cp34A	21.8108	105.2145
Liu 120_3	HAST	Vietnam	Tuyên Quang	Tuyên Quang		cp34A	21.8108	105.2145
Liu 121_1	HAST	Vietnam	Hoà Bình	Mộc Châu		cp34A	21.8108	105.2145
Liu 121_2	HAST	Vietnam	Hoà Bình	Mộc Châu		cp34A	20.7177	104.9894
Liu 121_3	HAST	Vietnam	Hoà Bình	Mộc Châu		cp34A	20.7177	104.9894
Liu 123_1	HAST	Vietnam	Hai Phong	Cát Bà		cp34A	20.8718	105.5187
Liu 123_2	HAST	Vietnam	Hai Phong	Cát Bà		cp34A	20.7811	107.0117
Liu 125	HAST	Vietnam	Quảng Bình	Bố Trạch		cp34A	20.7811	107.0117
Liu 131_1	HAST	Vietnam	Khánh Hòa	Nha Trang		cp34A	12.3724	109.1924
Liu BL1	HAST	Vietnam	Hà Nội	Hà Đông		cp34A	20.9506	105.7490
Liu BL2	HAST	Vietnam	Hà Nội	Hà Đông		cp34A	20.9499	105.7488
Liu BN3	HAST	Vietnam	Bac Ninh	Bắc Ninh		cp34A	21.1534	106.0325
Liu TX1	HAST	Vietnam	Hà Nội	Thanh Xuân		cp34A	20.9950	105.8086
Liu TX2	HAST	Vietnam	Hà Nội	Thanh Xuân		cp34A	20.9955	105.8085
Liu 128_1	HAST	Vietnam	Khánh Hòa	Diên Khánh		cp34B	12.1203	109.1088
Liu 122	HAST	Vietnam	Hoà Bình	Mộc Châu		cp34C	20.7177	104.9894
Liu BN2	HAST	Vietnam	Bac Ninh	Bắc Ninh		cp34C	21.1653	106.0440
Liu 118	HAST	Vietnam	Hà Nội	Hoàn Kiếm		cp35	21.0457	105.7974
Liu XM1	HAST	Vietnam	Hà Nội	Chương Mỹ		cp35	20.9042	-74.4117
Liu XM2	HAST	Vietnam	Hà Nội	Chương Mỹ		cp35	20.9048	-74.4107
Liu 119_2	HAST	Vietnam	Ninh Bình	Hoa Lư		cp39B	20.2842	105.9066