

SUPPLEMENTARY TEXT

1) *Study-group*

All species of *Canarina* are herbs with thick perennial roots, seasonal herbaceous stems and large, bell-shaped solitary flowers. They have fleshy and indehiscent fruits and tricolporate or tricolporoidate pollen grains. The basic chromosome number is $n=17$, and the three species are diploids with $2n = 34$ (Hedberg 1961). Eastern African *Canarina* species have been shown to be pollinated by nectarivorous birds (Olesen et al. 2012), meanwhile *C. canariensis* is pollinated by opportunistic nectar-feeding birds (Rodríguez-Rodríguez & Valido 2011).

Canarina abyssinica Engl. (1902) is a terrestrial climber herb up to 2m long, occasionally longer. Its leaves are triangular to pentagonal and have characteristic long coiled petioles that they use to climb up other plants. The species occurs in a few sites in the uplands of East Africa; southern Sudan, the Ethiopian highlands, Uganda, western Kenya and Northern Tanganyika (Fig 1b, Hedberg 1961), although this distribution could be at present more restricted (see below). Its habitats are rocky outcrop zones and opened wooded grasslands and savannas; it does not occur in closed forests. Its altitudinal range spans between 1400 and 2500 m.

Canarina eminii Aschers. ex Schweinf. (1892) is a terrestrial or mostly epiphytic herb up to 2m long. Its leaves are triangular to ovate. Intimately associated to the afro-montane forests that form vegetation belts in the East African mountain systems, its distribution is very fragmented, occurring in southern Sudan, the Ethiopian highlands, Uganda, Rwanda, East Democratic Republic of Congo, Kenya, and the north of Lake Malawi (Tanzania) as its southernmost distribution (Fig 1b). Its habitats are afro-montane forests, growing frequently in the canopy as epiphyte, between 1500 and 3200 m.

Canarina canariensis (L.) Vatke. (1874) is a terrestrial herb with prostrate or climbing erect stem, up to 3m long. Its leaves are hastate. It is often found in the scrubs, ravines, shaded rocks and opened habitats surrounding the laurisilva forest (between 200 and 1000 m of altitude) of the westernmost islands: Gran Canaria, Tenerife, La Gomera, La Palma and El Hierro, but it is only abundant in the first two islands.

2) *Expanded Material and Methods*

2.1 DNA amplification, sequencing and alignment

DNA was extracted using the DNeasy Plant Mini Kit (QUIAGEN Inc., California) following the manufacturers' instructions from silica gel dried leaves obtained from specimens collected in several field expeditions to the Canary Islands and East Africa between 2009 and 2012. A pilot study was carried out to select regions within the chloroplast genome that provide adequate variation at species and population levels.

The seven cpDNA loci selected, together with the nuclear ribosomal internal transcribed spacer (ITS), were successfully amplified using the primers listed in Table S2. Amplification was achieved in a 25 μ l reaction volume using the PCR mix BioMix (Biolone, Germany) with 1 μ l of DNA and 1 μ l of bovine serum albumin. PCR conditions

were: initialization at 95°C for 1–4 min; 35 cycles of denaturation at 95°C for 1 min, annealing at various temperatures —52°C for *petB-petD*, *trnG* intron, *rpl32-trnL*, *3'trnV-ndhC*, *psbJ-petA*, and *trnL-trnF*, 52°C–60°C for *trnS-trnG*, and 54°C for ITS— for 2 min, and elongation at 72°C for 2 min; and a final extension at 72°C for 10 min. PCR products were checked on 1% agarose gels and purified using ExoSap® or the Zymx purification kit. PCR products were sent to Macrogen (Korea) and StabVida (Lisboa, Portugal) for sequencing, using the aforementioned PCR primers (Table S2). Amplification of ITS revealed no double bands and clear single peaks in sequences, so no cloning strategy was necessary. Sequences were edited in Geneious Pro 5.4.4, and aligned using MAFFT v. 6.814b with the E-INS-I algorithm and manually adjusted when necessary following alignment rules described by Kelchner (2000).

2.2 Phylogenetic Inference

Phylogenetic relationships were estimated for each marker separately using Bayesian Inference, implemented in MrBayes 3.2.2 (Ronquist *et al.* 2012). Choice of substitution models was based on the Akaike Information Criterion implemented in MrModelTest 2.2 (Nylander 2004) and run in PAUP* v4.0b10 (Swofford 2002): the General Time Reversible model (GTR) was selected for all regions except ITS and *rpl32*, which added a gamma prior distribution to model among-site rate variation (GTR + G). Two independent analyses of four chains each were run for 10 million generations, sampling every 1000th. Convergence was assessed by monitoring cumulative split frequencies. After discarding the first 25% samples as burnin, we pooled the remaining trees to construct a 50% majority rule consensus tree. Additionally, Maximum Likelihood analyses were run in the software RAxML (Stamatakis *et al.* 2008) using the online tool (<http://embnet.vital-it.ch/raxml-bb/>); clade support was assessed by bootstrap analysis using 100 replicates.

*On our sampling effort and the decreasing distribution of *Canarina abyssinica*.*

In an effort to collect new fresh material of the East African species of *Canarina*, we carried out several field expeditions to Ethiopia (2009) and Kenya-Uganda (2010), led by J.J. Aldasoro. These failed to find *Canarina abyssinica* in any of the visited localities recorded in the literature (Hedberg, 1961), despite exhaustive search attempts (e.g., Kotob, Cabanne Valley, Zuqualla Abo Monastery, Agere Maryan, Mt Elgon, Manu escarpment, Aberdares, Timderet, Lumbwa). Similarly, a recent field expedition to Ethiopia (16-30 November 2014), led by L. Pokorny, failed to find the species in additional recorded localities (i.e., Harar; Shashemene). Moreover, we noted that much of the forest in these localities was highly degraded, having either completely disappeared or being threatened by the advancement of extensive agriculture (i.e., wheat and corn, rather than the native *Eragrostis tef* or *Sorghum bicolor*), forestry (i.e., native forests are being replaced by *Cupressus lusitanica* stands and fast-growing *Eucalyptus globulus* plantations), and other human activities (i.e., cattle raising).

According to EFAP (1994), up to 35% of Ethiopian Highlands were covered by montane forests a couple hundred years ago (Kebede *et al.* 2007), however due to population pressure and changes in the use of land, forested areas in Africa are now in

decline (even faster in Ethiopia), as a FAO report (2001) highlights. *Canarina abyssinica* is uncommon in wet forests (Agnew & Agnew 1994) and mostly lives in open mountain forests (Hedberg 1961), which are in a "downward spiral in soil degradation" according to Kloos & Legesse (2010). Thus, it is likely that the species has been seriously affected by the deforestation and land clearing that afflicts Eastern Africa (see Forest of Sheka, page 80 in. [http:// www.melcaethiopia.org/images/stories/Publication/ Forests%20of%20Sheka.pdf](http://www.melcaethiopia.org/images/stories/Publication/Forests%20of%20Sheka.pdf))

Interestingly, *C. abyssinica* is reported to be abundant in the Sheka Forest Biosphere Reserve, in southwestern Ethiopia ([http:// www.cepf.net/SiteCollectionDocuments/eastern_afromontane/62562_Safeguard_ShekaForestBiosphereReserveNominationForm.pdf](http://www.cepf.net/SiteCollectionDocuments/eastern_afromontane/62562_Safeguard_ShekaForestBiosphereReserveNominationForm.pdf)). However, a careful study of the pictures depicted in this report showed that these actually corresponds to *C. eminii*, which is indeed an epiphyte as described in page 6, whereas *C. abyssinica* is not. This confusion between the two species seems to be common, and sometimes they are misidentified in herbaria such as in the collections of the University of Uppsala (J.J. Aldasoro, pers. comm.). The confusion might also stem from the fact that the types of *C. abyssinica* and *C. eminii* were burned in a fire in Berlin during World War II (c.f. Hedberg 1961, page 40). It might also be attributed to the old age of the specimens; most of the occurrences recorded in the GBIF dataset are more than 40 years old.

In sum, although we admit that *Canarina abyssinica* could still be found in other areas not sampled by us (for example, we did not sample all the mountains of Kenya, South Sudan or the border of Ethiopia with Somalia, due to security concerns), we believe that the species is less abundant now that it was in the past (Hedberg, 1961) and can be considered as in retreat or under threat from disappearing from its current habitat.

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SUPPLEMENTARY TABLES

Table S1. Voucher information and GenBank accession numbers for all taxa included in this study. Newly generated sequences are printed in bold. Abbreviations for the main geographical areas discussed in the text: WR, West Rift; ER, East Rift; UG, Uganda; GC, Gran Canaria; TFE, Tenerife East; TFW, Tenerife West; GO, Gomera; LPA, La Palma; EH, El Hierro.

Population # / Code	Taxon	Locality (Country)	Collector and Coll. # (Herbarium)	Geographic coordinates	<i>Rpl32-trnL</i>	<i>3'trnV-ndhC</i>	<i>psbJ-petA</i>	<i>petB-petD</i>	<i>trnL-trnF</i>	<i>trnS-trnG</i>	<i>trnG intron</i>	ITS
1 WR- Gifita	<i>C. eminii</i>	Debre Markos to Bahir Da Road, Gifita, N of Bure (Ethiopia)	<i>Aldasoro & Alarcón</i> 9982 (BC)	10° 35' 13.0626" N, 37° 29' 4.4838" E	KP761 548	KP7616 81	KP76 1514	KP76 1488	KP76 1613	KP761 632	KP761 579	KP76 1452
2 WR- Dembecha	<i>C. eminii</i>	Debre Markos to Bahir Dar Road, Dembecha to Bure (Ethiopia)	<i>Aldasoro & Alarcón</i> 9979 (BC)	10° 36' 53.5926" N, 37° 30' 9.6798" E	KP761 549	KP7616 83	KP76 1515	KP76 1489	KP76 1614	KP761 633	KP761 580	KP76 1451
3 ER- Harennna	<i>C. eminii</i>	Harennna Forest, Negele to Goba Road (Ethiopia)	<i>Aldasoro & Alarcón</i> 10322 (BC)	6° 42' 03" N, 39° 43' 35" E	KP761 553	KP7616 85	KP76 1518	KP76 1485	KP76 1611	KP761 638	KP761 583	KP76 1450
4 ER- Yirga	<i>C. eminii</i>	Agere Maryan, Yirga Chefé Road	<i>Aldasoro & Alarcón</i> 10060 (BC)	6° 04' 54" N, 38° 14' 33" E	KP761 552	KP7616 82	KP76 1516	KP76 1484	KP76 1610	KP761 637	KP761 582	KP76 1448
5 UG-Elgon	<i>C. eminii</i>	Mount Elgon (Uganda)	<i>Sánchez-Meseguer & Aldasoro</i> 69 (BC)	6° 39' 3"N, 39° 43' 57"E	KP761 550	KP7616 84	KP76 1517	KP76 1483	KP76 1615	KP761 634	KP761 584	KP76 1447
6 ER- Aberdare	<i>C. eminii</i>	Aberdare Mts. (Kenia)	<i>Sánchez-Meseguer & Aldasoro</i> 103 (BC)	0° 45' 52" N, 36° 44' 35" E,	KP761 554	KP7616 86	KP76 1520	KP76 1486	KP76 1612	KP761 636	KP761 585	KP76 1449
7 UG- Rwenzori	<i>C. eminii</i>	Rwenzori Mountains (Uganda)	<i>Sánchez-Meseguer & Aldasoro</i> 18 (BC)	0° 21' 35" N, 29° 58' 20"E	KP761 551	KP7616 87	KP76 1519	KP76 1487	KP76 1616	KP761 635	KP761 581	KP76 1453
8 ER- Birbisa	<i>C. abyssinica</i>	Birbisa, Gara Muleta Valley. (Ethiopia)	<i>Aldasoro & Alarcón</i> 10424 (BC)	9° 16' 2.964" N, 41° 40' 45.7746" E	KP761 526	KP7616 59	KP76 1491	KP76 1460	KP76 1587	KP761 630	KP761 556	KP76 1424
10 GC- Corcho	<i>C. canariensis</i>	Lanzarote-Cueva Corcho (Gran Canaria, Canary Islands, C.I.,)	<i>Aldasoro & Alarcón</i> 10355bis	28° 01' 31" N, 15° 35' 46" W	KP761 534	KP7616 72	KP76 1498	KP76 1465	KP76 1606	KP761 642	KP761 564	KP76 1430
11 GC- Virgen	<i>C. canariensis</i>	Barranco de La Virgen (Gran Canaria, C. I.)	Caujapé J. 7325 & Mairal M. MM318	28° 3' 39.7296" N, 15° 35' 18.387" W	KP761 540	KP7616 76	KP76 1511	KP76 1471	KP76 1594	KP761 654	KP761 562	KP76 1438
12 GC- Azuaje	<i>C. canariensis</i>	Barranco de Azuaje (Gran Canaria, C. I.)	Soto M. 7126	28° 5' 55.9032" N, 15° 34' 31.5768" W	KP761 542	KP7616 70	KP76 1500	KP76 1473	KP76 1597	KP761 648	KP761 560	KP76 1445
13 GC- Moya	<i>C. canariensis</i>	Tilos de Moya (Gran Canaria, C. I.)	Mairal M. MM246 & Caujapé J. 7202	28° 5' 15.3342" N, 15° 35' 34.3428" W	KP761 531	KP7616 74	KP76 1510	KP76 1478	KP76 1592	KP761 655	KP761 574	KP76 1436
14 GC- El Sao	<i>C. canariensis</i>	Camino de El Sao a Presa de Los Pérez (Gran Canaria, C. I.)	Caujapé J. 7173 & Mairal M. MM48	28° 3' 27.324" N, 15° 39' 35.157" W	KP761 539	KP7616 73	KP76 1509	KP76 1472	KP76 1598	KP761 651	KP761 566	KP76 1437
15 GC- Guayedra	<i>C. canariensis</i>	Andenes de Guayedra (Gran Canaria, C. I.)	Caujapé J. 7404	28° 3' 50.5008" N, 15° 41' 47.2524" W	KP761 532	KP7616 71	KP76 1503	KP76 1467	KP76 1608	KP761 653	KP761 559	KP76 1441
16 TFE- Chamuscadas	<i>C. canariensis</i>	Monte Chamuscadas (Tenerife, C. I.)	<i>Aldasoro & Alarcón</i> 10321bis	28°32'13.68"N, 16°15'8.45"W	KP761 547	KP7616 65	KP76 1494	KP76 1468	KP76 1605	KP761 641	KP761 571	KP76 1426
17 TFE- Bailadero	<i>C. canariensis</i>	El Bailadero (Tenerife, C. I.)	Mairal M. MM238	28° 33' 1.9908" N, 16° 12' 12.4956" W	KP761 528	KP7616 63	KP76 1508	KP76 1463	KP76 1596	KP761 652	KP761 573	KP76 1439
18 TFE- Carnero	<i>C. canariensis</i>	Tope del Carnero (Tenerife, C. I.)	González A. 1000 & Mairal M. MM259	28° 33' 26.4702" N, 16° 18' 56.631" W	KP761 527	KP7616 61	KP76 1493	KP76 1462	KP76 1589	KP761 639	KP761 558	KP76 1444
19 TFE- Badajoz	<i>C. canariensis</i>	Barranco de Badajoz (Tenerife, C. I.)	Caujapé J. 9959	28° 18' 12.6036" N, 16° 25' 42.459" W	KP761 535	KP7616 79	KP76 1513	KP76 1480	KP76 1595	–	KP761 578	KP76 1446
20 TF- Ruiz	<i>C. canariensis</i>	Barranco Ruiz (Tenerife, C. I.)	Caujapé J. 4672 & Mairal M. MM209 &	28° 23' 7.8252" N, 16° 37' 35.886" W	KP761 533	–	KP76 1512	KP76 1464	KP76 1604	–	KP761 576	KP76 1442

21 TFW- Adeje	<i>C. canariensis</i>	Adeje- Barranco Infierno_(Tenerife, C. I.)	Caujapé J. 9198 & Mairal M. MM 270	28° 7' 2.3844" N, 16° 42' 20.7828" W	536	80	1506	1479	1609	656	577	1443
22 TFW- Palmar	<i>C. canariensis</i>	El Palmar-Monte del Agua (Tenerife, C. I.)	Aldasoro & Alarcón 10339 (BC)	28° 20' 30.681" N, 16° 49' 28.3152" W	544	62	1504	1470	1607	650	567	1427
23 TFW- Teno Alto	<i>C. canariensis</i>	Teno Alto (Tenerife, C. I.)	González A. 1001 & Mairal M. MM 283	28° 20' 35.7" N, 16° 52' 30.3024" W	543	63	1495	1476	1590	649	572	1440
24 GO- Palmita	<i>C. canariensis</i>	Barranco de la Palmita (La Gomera, C. I.)	Mairal M. MM025	28° 10' 1.9596" N, 17° 13' 7.197" W	546	68	1505	1481	1600	640	563	1429
25 GO- Tamargada	<i>C. canariensis</i>	Tamargada (La Gomera, C. I.)	Mairal M. MM009	28° 11' 4.7466" N, 17° 14' 22.8222" W	545	77	1501	1482	1599	643	569	1428
26 LPA- Tilos	<i>C. canariensis</i>	Los Tilos (La Palma, C. I.)	Mairal M. MM014	28° 47' 23.568" N, 17° 48' 6.8646" W	541	78	1496	1469	1591	657	575	1432
27 LPA- Agua	<i>C. canariensis</i>	Barranco del agua_(La Palma, C. I.)	Mairal M. MM013	28° 47' 37.3092" N, 17° 47' 33.7848" W	537	69	1497	1474	1602	644	565	1434
28 LPA- Galga	<i>C. canariensis</i>	Cubo de La Galga_(La Palma, C. I.)	Mairal M. MM026	28° 45' 49.7592" N, 17° 46' 29.7654" W	538	67	1499	1477	1601	646	570	1435
29 LPA- Barata	<i>C. canariensis</i>	Barranco La Barata_(La Palma, C. I.)	Mairal M. MM024	28° 48' 10.5798" N, 17° 47' 36.8154" W	530	66	1507	1475	1603	647	568	1431
30 EH- El Hierro	<i>C. canariensis</i>	Hoya del Pino (El Hierro, C. I.)	Mairal M. MM017	27° 43' 50.1702" N, 18° 1' 35.7234" W	529	75	1502	1466	1593	645	561	1433
Platycodeoneae	Taxon	Locality (Country)	Coll. & Coll. # (Herbarium)	Geographic coordinates	<i>psbJ-petA</i>	<i>petB-petD</i>	<i>trnL-trnF</i>	<i>trnS-trnG</i>	ITS			
Outgroup	<i>Lobelia nana</i>	Sierra de Achala, Condola (Argentina)	J.J. Aldasoro 6780		KP761521	FN397074.1	KP761617	KP761622	AY350629.1			
Outgroup	<i>Cyphia subtubulata</i>				–	FN397061.1	–	–	–			
Outgroup	<i>Campanula jacobaea</i>	Santo Antão, Cova_(Cape Verde)	Mairal M. MM183	17°06' 0" N 25°04'02" W	–	JX91476.2.1	–	KP761623	KP761454			
Outgroup	<i>Codonopsis benthamii</i>	Cultivated in Edrom Nursery, from_E Sikkim (Scotland)	GWJ9352		KP761523	KP761458	KP761619	KP761627	KP761455			
Outgroup	<i>Campanumoea javanica</i>	Sichuan province, Emei Mountain (China)	4028 X.J. LI		KP761522	KP761457	KP761618	KP761626	DQ889459.1			
Outgroup	<i>Cyananthus lobatus</i>	Cultivated in Edrom Nursery (Scotland)	018907_71386_CC4634		–	FN397058.1	JN851188.1	KP761628	KP761456			
Outgroup	<i>Cyclocodon lancifolium</i>	Sichuan province, _Emei Mountain (China)	X.J. LI s.n.		KP761525	FN397059.1	KP761621	KP761625	EF206701.1			
Outgroup	<i>Platycodeon grandiflorum</i>	Cultivated in Real Jardín Botánico de Madrid (Spain)			KP761524	FN397087.1	KP761620	KP761624	AB699584			
Outgroup	<i>Ostrowskia magnifica</i>	Kondara Gorge, Botanical Zoologic & Genetic Science Center of Varzob District (Tajikistan)	J.J. Aldasoro 23000	38° 48' 37.9" N, 68° 48' 45.2" E	KP761490	KP761459	KP761586	KP761629	KP761423			

Table S2. Primers used for PCR amplification and sequencing.

N° primer	Primer name	Sequence 5'-3'	Marker (reference study)
1	<i>rpl32-F</i>	CAG TTC CAA AAA AAC GTA CTT C	<i>rpl32-trnL</i> (Shaw <i>et al.</i> 2007)
2	<i>trnL</i>	CTG CTT CCT AAG AGC AGC GT	<i>rpl32-trnL</i> (Shaw <i>et al.</i> 2007)
3	<i>3'trnV</i>	GTC TAC GGT TCG ART CCG TA	<i>3'trnV-ndhC</i> (Shaw <i>et al.</i> 2007)
4	<i>ndhC</i>	TAT TAT TAG AAA TGY CCA RAA AAT ATCATA TTC	<i>3'trnV-ndhC</i> (Shaw <i>et al.</i> 2007)
5	<i>psbJ</i>	ATA GGT ACT GTA RCY GGT ATT	<i>psbJ-petA</i> (Shaw <i>et al.</i> 2007)
6	<i>petA</i>	AAC ART TYG ARA AGG TTC AAT T	<i>psbJ-petA</i> (Shaw <i>et al.</i> 2007)
7	<i>petB-1365F</i>	TTG ACY CGT TTT TAT AGT TTA C	<i>petB-petD</i> (Borsch <i>et al.</i> 2009)
8	<i>petD-738R</i>	AAT TTA GCY CTT AAT ACA GG	<i>petB-petD</i> (Borsch <i>et al.</i> 2009)
9	<i>trnG</i>	GAA CGA ATC ACA CTT TTA CCA C	<i>trnS-trnG-IGS</i> (Shaw <i>et al.</i> 2005)
10	<i>trnS</i>	GCC GCT TTA GTC CAC TCA GC C	<i>trnS-trnG-IGS</i> (Shaw <i>et al.</i> 2005)
11	<i>trnG2G</i>	GCG GGT ATA GTT TAG TGG TAA AA	<i>trnG</i> (Shaw <i>et al.</i> 2007)
12	<i>trnG(UUC)</i>	GTA GCG GGA ATC GAA CCC GCA TC	<i>trnG</i> (Shaw <i>et al.</i> 2007)
13	<i>trnLF-c</i>	CGA AAT CGG TAG ACG CTA CG	<i>trnL-trnF</i> (Shaw <i>et al.</i> 2005)
14	<i>trnLF-f</i>	ATT TGA ACT GGT GAC ACG AG	<i>trnL-trnF</i> (Shaw <i>et al.</i> 2005)
15	ITS1A	GGA AGG AGA AGT CGT AAC AAG G	ITS (White <i>et al.</i> 1990)
16	ITS4	TCC TCC GCT TAT TGA TAT GC	ITS (White <i>et al.</i> 1990)

Table S3. Summary of results from the congruence analysis among chloroplast markers (see text). Above: alternative topologies supported by BUCKy with or without *rpl32* using the *Platycodoneae* cpDNA dataset; numbers in bold represent taxa as 1 *Lobelia*, 2 *C. abyssinica*, 3 *C. eminii*, 4 *Codonopsis*, 5 *C. canariensis*, 6 *Platycodon*, 7 *Cyclocodon*, and 8 *Ostrowskia*, followed by the sample concordance factors. Below: rate multipliers and tree length (TL) estimates for each gene as obtained in a partitioned analysis in MrBayes of the *Canarina* cpDNA dataset.

	Markers	Topologies					
Bucky	cpDNA complete (including <i>rpl32</i>)	(((1:1,4:1):0.998,6:1):0.977,7:1):1,((2:1,3:1):0.991,5:1):1,8:1)					
	cpDNA (excluding <i>rpl32</i>)	(((1:1,4:1):1,6:1):0.815,7:1):1,(2:1,(3:1,5:1):0.896):1,8:1)					
	<i>rpl32-trnL</i>	<i>3'trnV-ndhC</i>	<i>psbJ-petA</i>	<i>petB-petD</i>	<i>TrnL-trnF</i>	<i>TrnS-trnG</i>	<i>trnG</i> intron
Rate multipliers	3.19	0.855	0.813	0.697	0.672	0.681	0.333
TL (tree length)	1.374	–	–	0.448	–	0.668	–

Table S4. Model likelihood estimators obtained using the Path sampling (PS) and Stepping-Stone (SS) sampling methods implemented in BEAST.

	Clock	Prior	Pathlikelihood.delta
Platycodoneae	Strict	Yule	-9219
	Strict	Birth-Death	-9452
	UCLD	Yule	-9282
	UCLD	Birth-Death	-9252
Canarina	Strict	Yule	-11193
	Strict	Birth-Death	-11196
	UCLD	Yule	-11171*
	UCLD	Birth-Death	-11328*

*these runs could not reach convergence (poor mixing)

Table S5. Geographical coordinates used in the Ecological Niche Modelling of *Canarina*.

<i>Canarina canariensis</i>		<i>Canarina eminii</i>	
Latitude	Longitude	Latitude	Longitude
28.05685282	-15.58776829	-2.25	28.68333
28.08216502	-15.59768136	0.21	29.5
28.0510065	-15.589861	7.56	39.09
28.01069557	-15.52732573	-9.13	33.71
28.04484808	-15.58348836	9.02	36.29
28.0717	-15.5383	-8.98	33.6
28.09024162	-15.60081615	-9.17	33.88
28.55015111	-16.20409333	-2.13333	28.83333
28.33081506	-16.8188953	1.1	34.24
28.5167	-16.4	-9.18	33.65
28.54805939	-16.21842849	8.58333	38.01667
28.04431533	-15.48392558	-9	33.7
28.45153473	-16.41565582	-2.23333	28.78333
28.55	-16.22	7.15	38.71667
28.53295921	-16.26375579	9.03333	36.63333
28.355173	-16.812436	7.55	39.08
28.5463837	-16.18735977	7.5	36.52
28.1836473	-17.271695	-3.14	29.34
28.1826325	-17.2417145	9.05	38.56667
28.1581688	-17.1934095	-3.18	29.6
28.1560741	-17.2062944	1.084138889	37.04888889
28.16269789	-17.22366673	1.068055556	37.24805556
28.1536398	-17.1709597	6.700833333	39.72638889
28.150631	-17.1918828	6.081666667	38.2425
28.1494649	-17.1919593	1.328888889	34.41611111
28.1536398	-17.1709597	0.764444444	36.74305556
28.556337	-16.264902	0.359722222	29.97222222
28.1430218	-17.216242	9.018375135	38.772202
28.82516335	-17.8866558	9.080695092	38.772187
28.01944	-15.55306	1.912099093	30.617505
28.61919366	-17.78626204	0.232984815	29.839975
27.77990979	-17.98717071	0.332078311	29.824007
27.70821803	-17.96491689	9.083332999	38.583333
28.67504035	-17.79049071	-2.7290055	28.751193
28.51267699	-16.35197031	3.778690614	32.917296
28.55	-16.26667	-1.60159591	27.978259
28.02527	-15.5961	1.753087361	34.686349
28.061036	-15.58844	1.246711426	34.381467
28.098862	-15.575438	1.245984013	34.3974488
28.087592	-15.592873	1.24671151	34.381466
28.05759	-15.65976	1.196913283	34.670038

28.064028	-15.696459	2.515355305	34.765731
28.562944	-16.166788	0.203156266	34.907933
28.550553	-16.203471	-9.111647597	33.5294294
28.55735	-16.31573	0.615923341	35.5084578
28.303501	-16.42846	-1.212228546	36.8253984
28.385507	-16.626635	-0.141257009	37.3078994
28.117329	-16.705773	6.858020949	36.1962449
28.341855	-16.824532	-0.440115688	36.6739351
28.343249	-16.875084	6.04625072	37.602662
28.167211	-17.2186658	-0.630463274	35.8288148
28.184651	-17.2396727	1.211568243	35.5559462
28.78988	-17.8019068	1.10287324	37.0550245
28.793697	-17.792718	1.098176303	37.7105833
28.76382	-17.77493		
28.8029388	-17.7935598		
27.7306028	-18.0265898		
28.30796375	-16.76491462		
28.56456788	-16.16696242		
28.56026612	-16.2841235		
28.16746387	-17.21712289		
28.32851682	-16.70319362		
28.35624536	-16.79834381		
28.37539544	-16.62823676		
28.12817544	-16.702372		
28.3527617	-16.80702		
28.11533631	-15.5949431		

Table S6. Mean ages and 95% HPD confidence intervals for the different BEAST analyses represented in Fig. 3a-b-c: a) *Platycondoneae* dataset; b) *Canarina* dataset, standard dating; c) nested dating of the *C. eminii* and *C. canariensis* datasets. Node numbers correspond to those shown in Fig. S4a-b-c.

a)			b)			c)		
Node	Mean age	Confidence Interval	Node	Mean age	Confidence Interval	Node	Mean age	Confidence Interval
1	52.97	40.13-66.73	1	14.13	7.79 - 20.73	1	52.66	39.52 - 65.99
2	40.09	20.59 - 57.13	2	11.64	6.22 - 17.33	2	39.11	19.21 - 57.48
3	41.89	28.56 - 54.67	3	7.18	3.78 - 10.85	3	42.46	29.08 - 54.83
4	29.13	18.17 - 41.95	4	6.48	3.44 - 9.82	4	29.69	17.84 - 42.62
5	16.50	7.45 - 27.39	5	1.28	0.605 - 2.092	5	16.74	7.28 - 27.95
6	8.83	2.93 - 17.09	6	0.41	0.127 - 0.822	6	8.75	2.5 - 17.15
7	22.14	12.72 - 33.30	7	0.16	0.018 - 0.406	7	22.33	12.04 - 33.62
8	20.82	11.80 - 31.67	8	0.92	0.424 - 1.551	8	20.93	11.53 - 31.99
9	13.76	6.57 - 21.74	9	0.70	0.277 - 1.253	9	13.93	6.73 - 22.84
10	8.19	3.31 - 14.13	10	0.06	0 - 0.202	10	8.38	3.04 - 14.67
11	6.47	2.11 - 11.88	11	0.81	0.345 - 1.387	11	6.5	1.75 - 12.16
			12	0.41	0.161 - 0.759	12	1.76	0.532 - 3.668
			13	0.14	0.020 - 0.338	13	0.1	0.001 - 0.376
			14	0.28	0.097 - 0.540	16	0.36	0.062 - 0.917
			15	0.03	0 - 0.13	17	0.14	0.011 - 0.42
			16	0.59	0.23 - 1.05	18	0.759	0.247 - 1.580
			17	0.29	0.089 - 0.576	19	0.311	0.078 - 0.728
			18	0.10	0.049 - 0.373	20	0.063	0.005 - 0.205
			19	0.03	0 - 0.17	21	0.182	0.033 - 0.445
						22	0.056	0.005 - 0.168
						23	0.008	0 - 0.045
						24	0.014	0 - 0.067
						25	0.38	0.094 - 0.891
						26	0.17	0.04 - 0.42
						27	0.01	0 - 0.08

SUPPLEMENTARY FIGURES

Figure S1. Bayesian Majority-Rule consensus trees obtained by MrBayes from the single-gene analyses of the Platycodoneae dataset. Numbers next to branches indicate Bayesian posterior probability values (PP).

Figure S2. Bayesian Majority-Rule consensus trees inferred from the single-gene analyses of the *Canarina* dataset. Numbers above branches indicate Bayesian credibility values (PP); numbers below branches indicate maximum likelihood bootstrap support values.

Figure S3. Saturation plots for the single-gene nuclear (ITS) and chloroplast markers, showing the uncorrected pairwise distances (p distance) against corrected maximum likelihood distances (ML distance) derived in PAUP using the appropriate model of substitution.

Figure S4. Maximum clade credibility (MCC) trees obtained from different BEAST analyses, showing nodes with mean ages and 95% HPD confidence intervals (values specified in Table S4): a) Platycodoneae dataset; b) standard dating of the *Canarina* dataset; c) nested dating analysis of all three linked datasets: Platycodoneae (left) and population-level *C. eminii* and *C. canariensis* (right).

Figure S5. Bayesian phylogeographic analysis of the *C. eminii* population-level dataset (nested dating approach) using an alternative coding of the geographic areas: (Elgon and Ruwenzori considered as different OTUs). The tree represents the MCC tree from BEAST with colored branch lengths representing the ancestral range with the highest posterior probability for each lineage (see legend). The nodal pie charts represent alternative ancestral ranges according to their posterior probability value.

Figure S6. Bayesian Majority-Rule consensus tree obtained by MrBayes from the *Canarina* concatenated chloroplast and nuclear dataset rooted with *Ostrowskia* (ITS, *psbJ-petA*, *trnL-trnF*, *petB-petD*, *trnS-trnG*, *trnV-ndhC*). Numbers above branches indicate Bayesian credibility values (PP); numbers below branches indicate maximum likelihood bootstrap support values.

Figure S1

This is an Accepted Manuscript of an article published in *Molecular Ecology* on 16 March 2015, available online:
<http://dx.doi.org/10.1111/mec.13114>

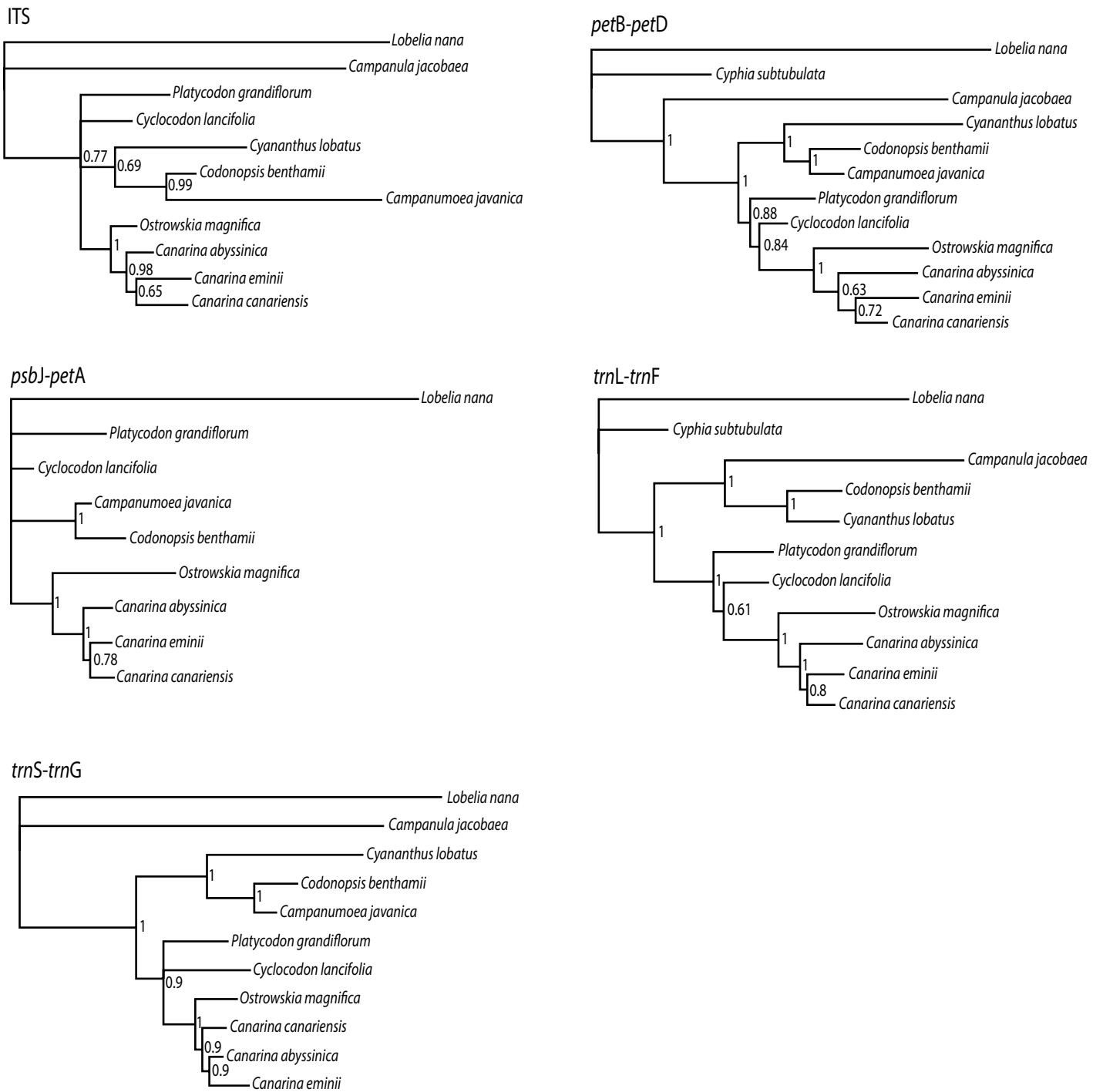
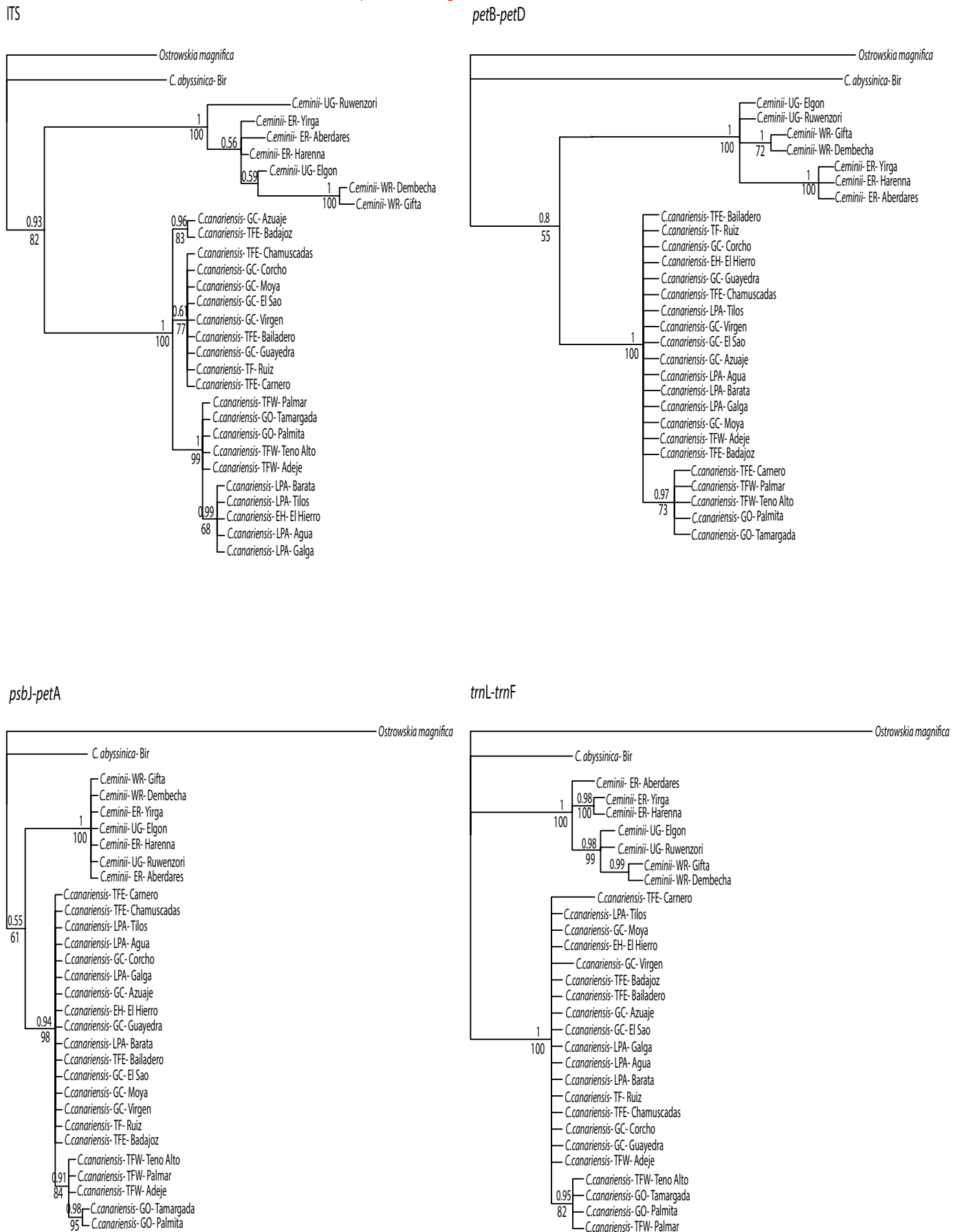


Figure S2

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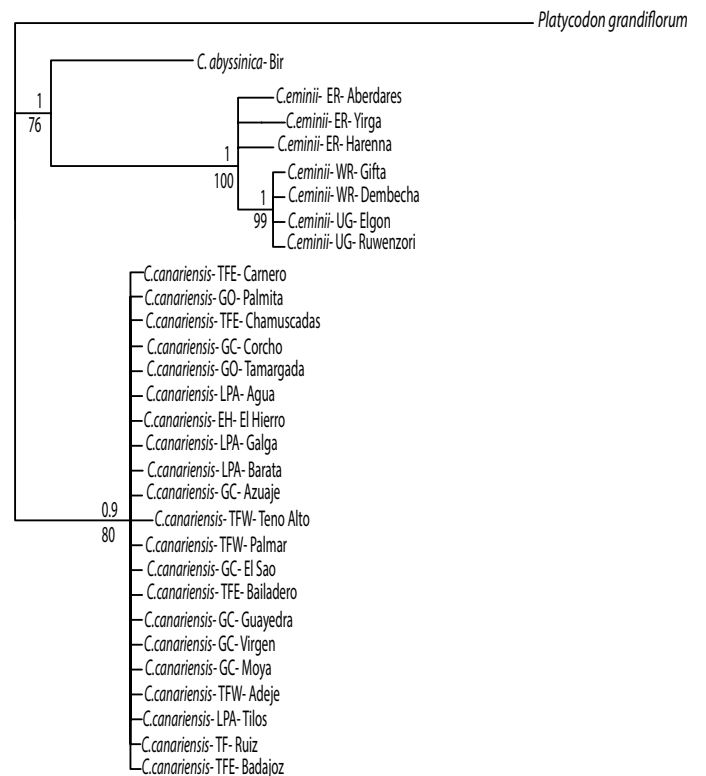
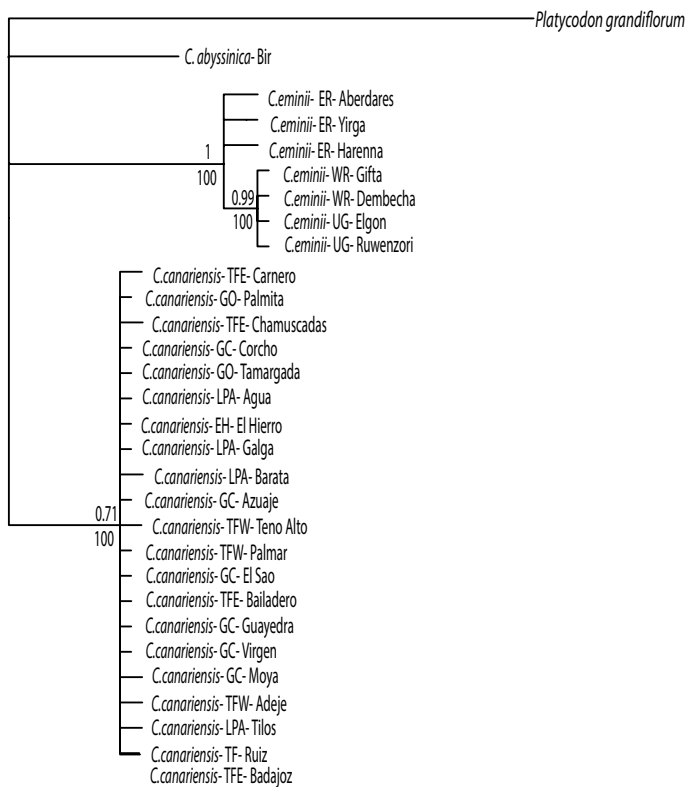
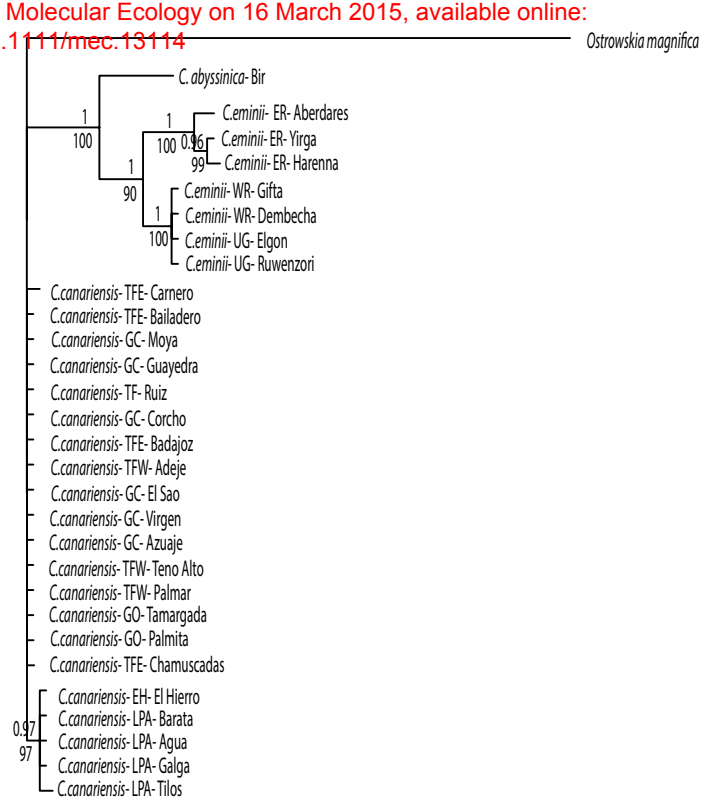
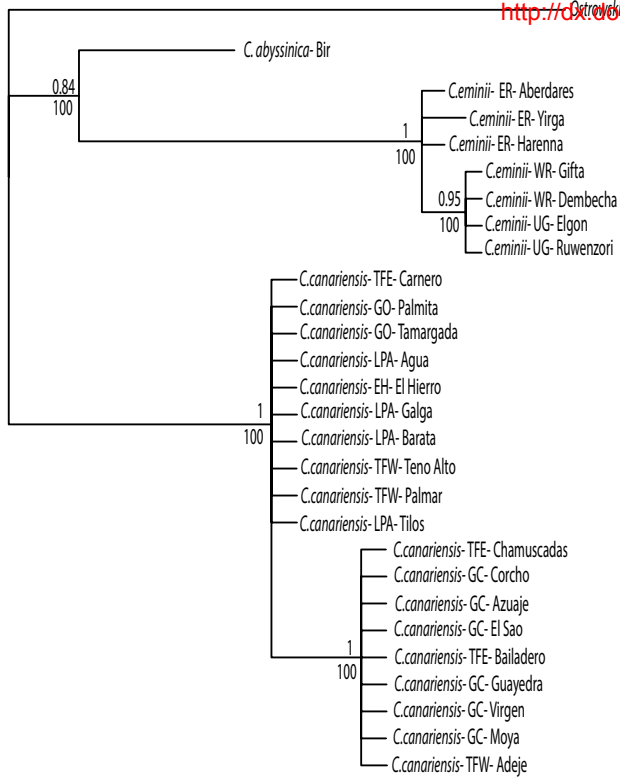


Figure S3.

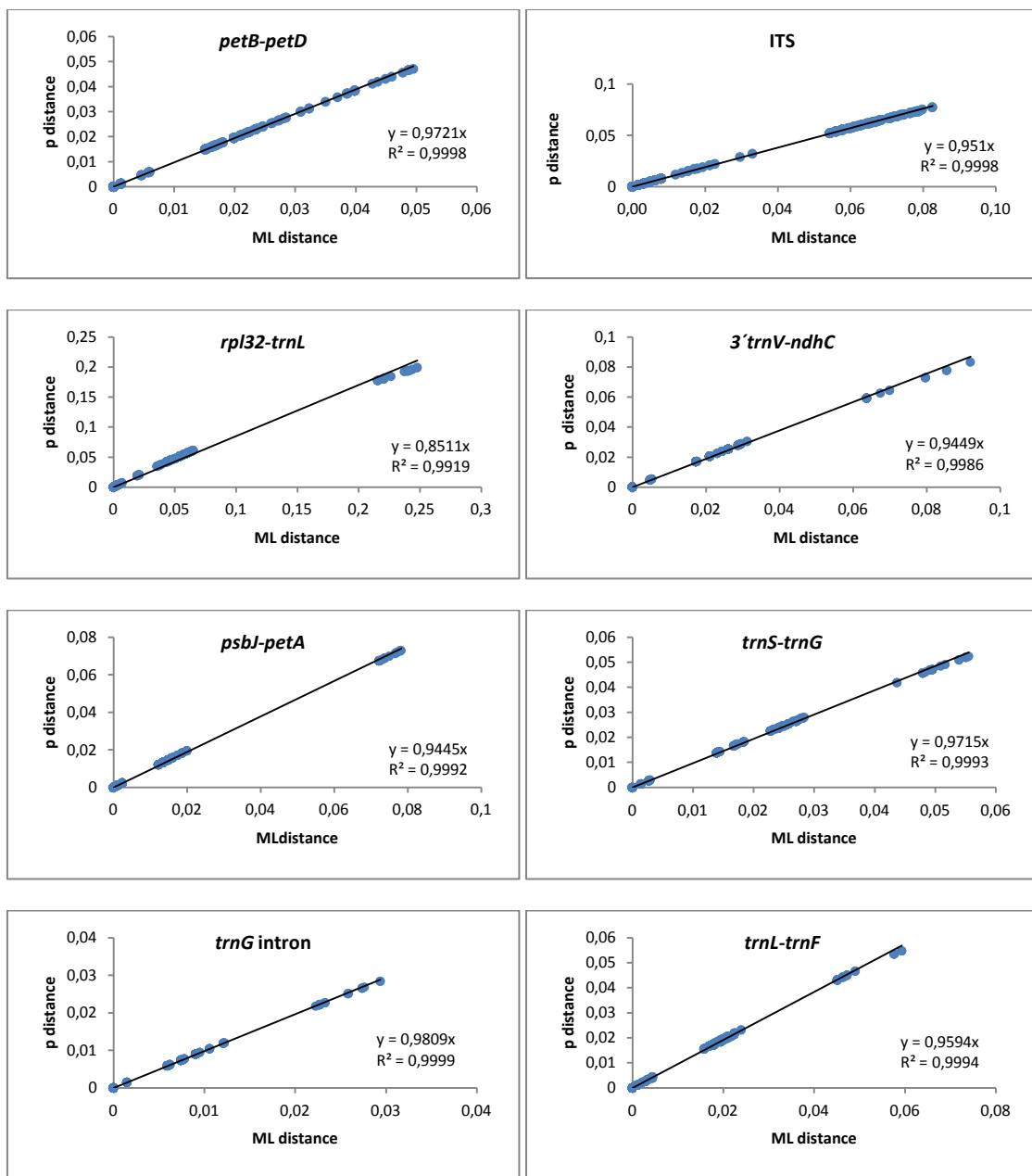
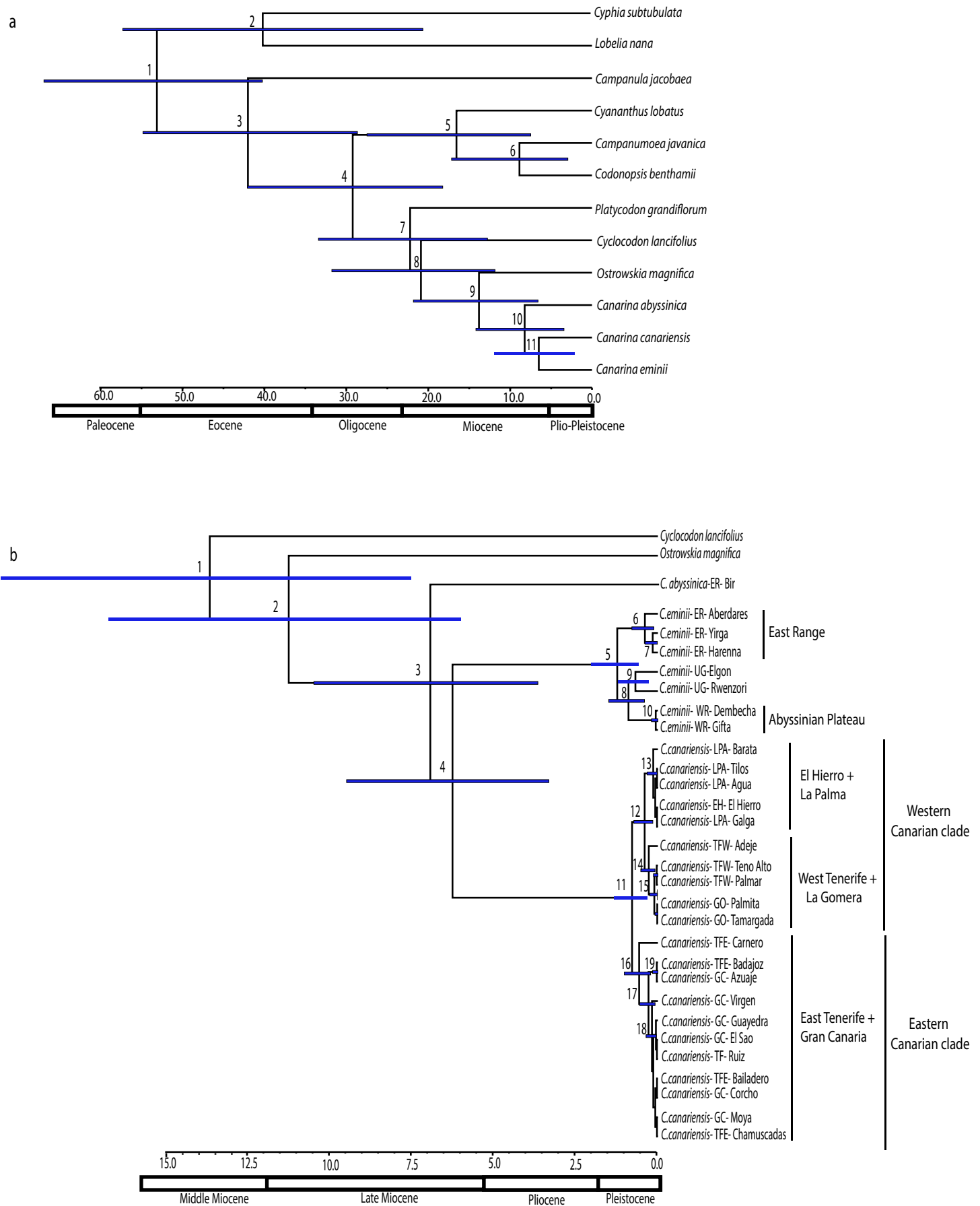


Figure S4

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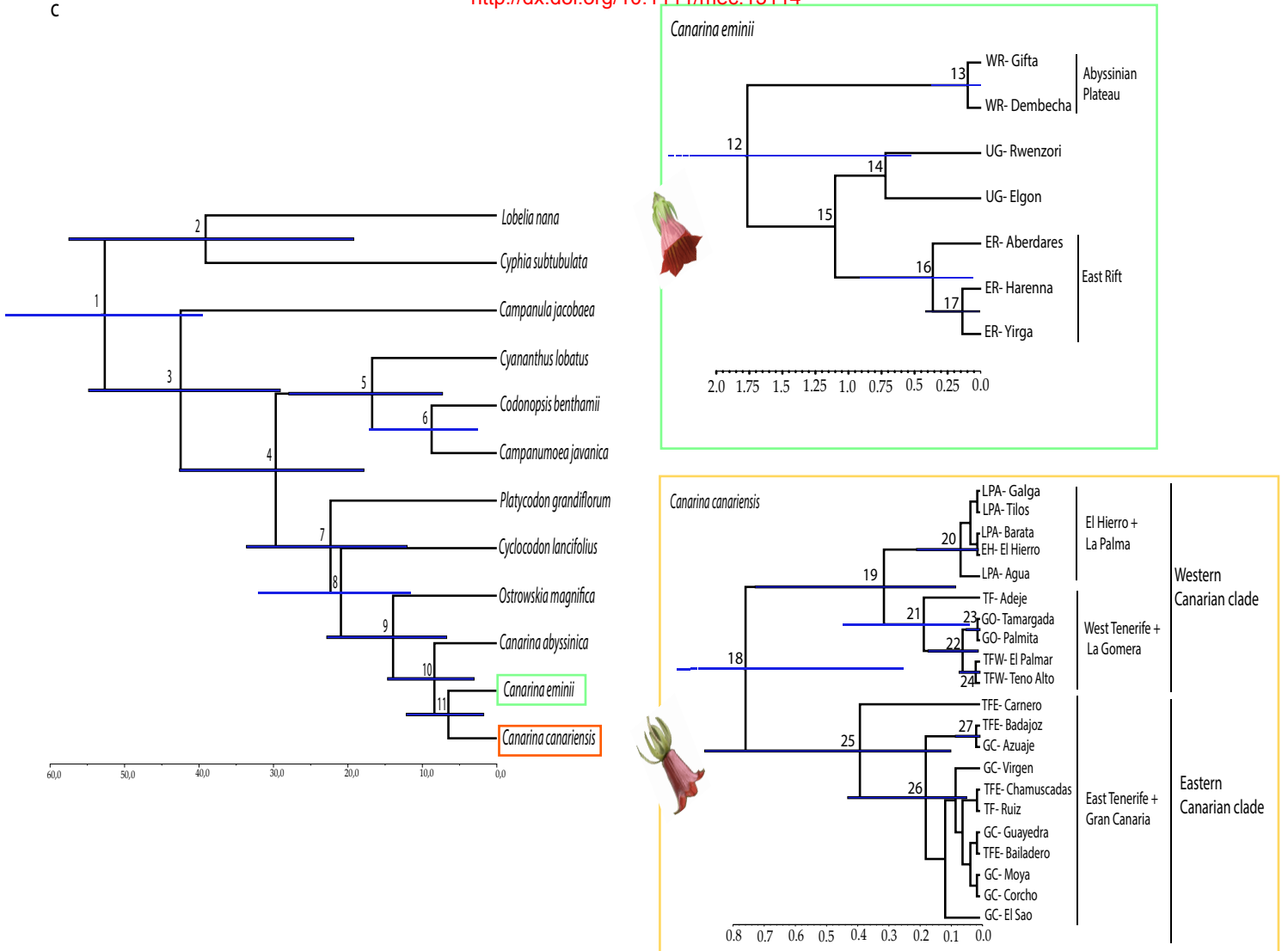


Figure S5

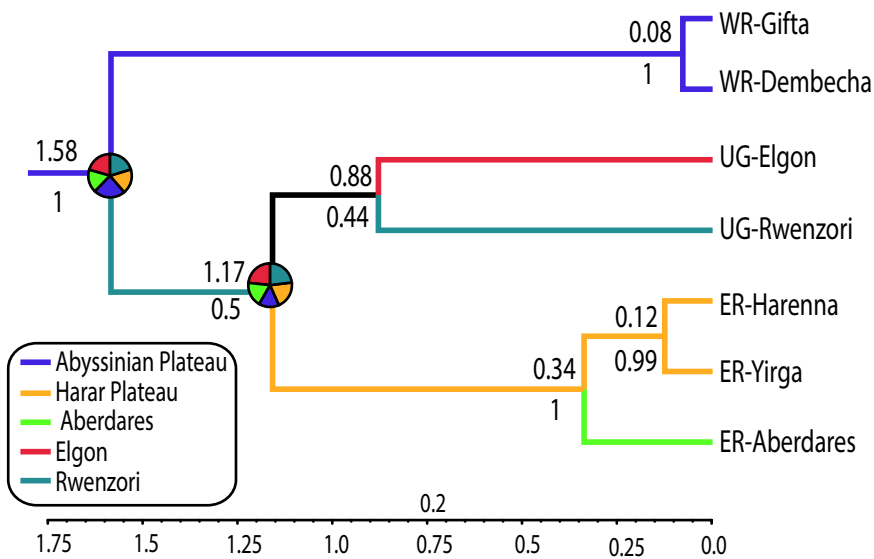


Figure S6

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