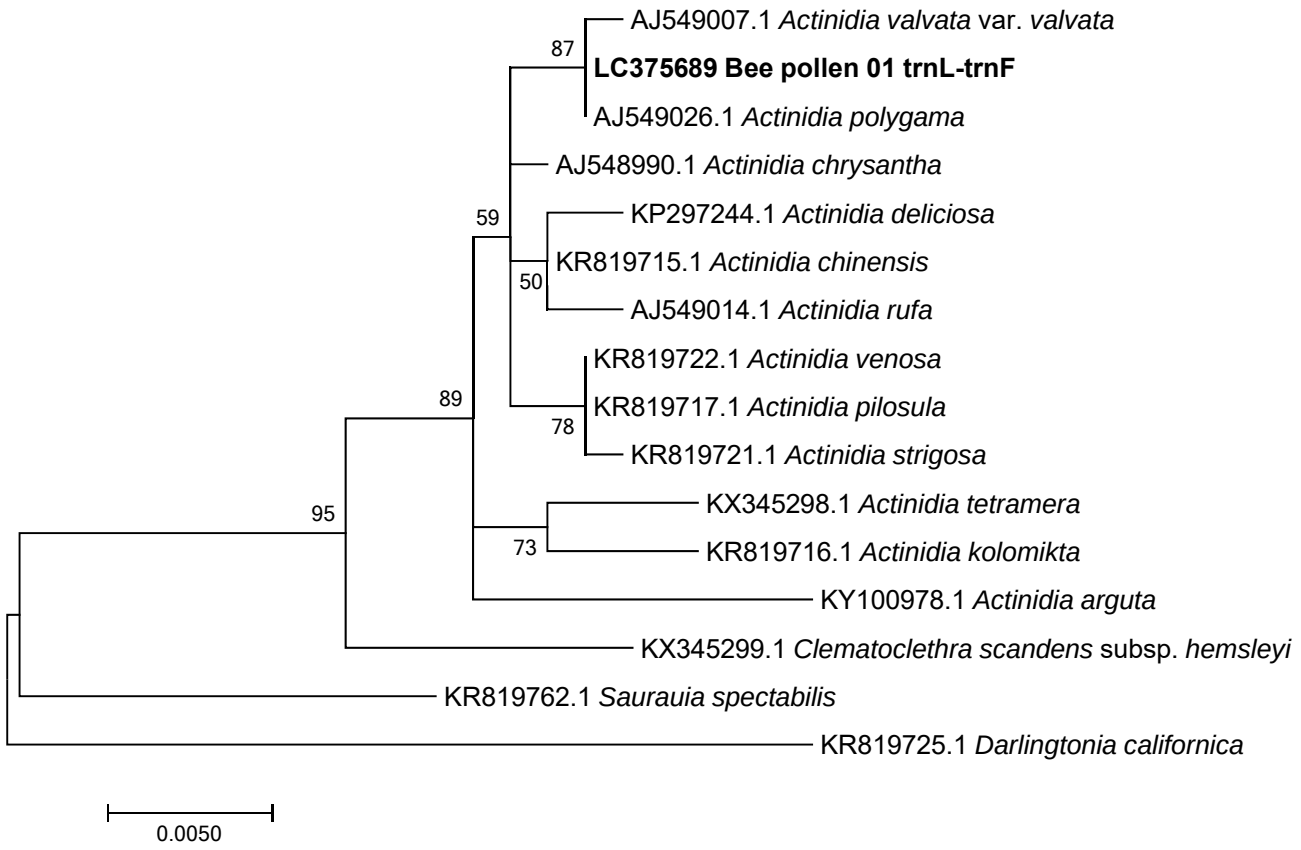
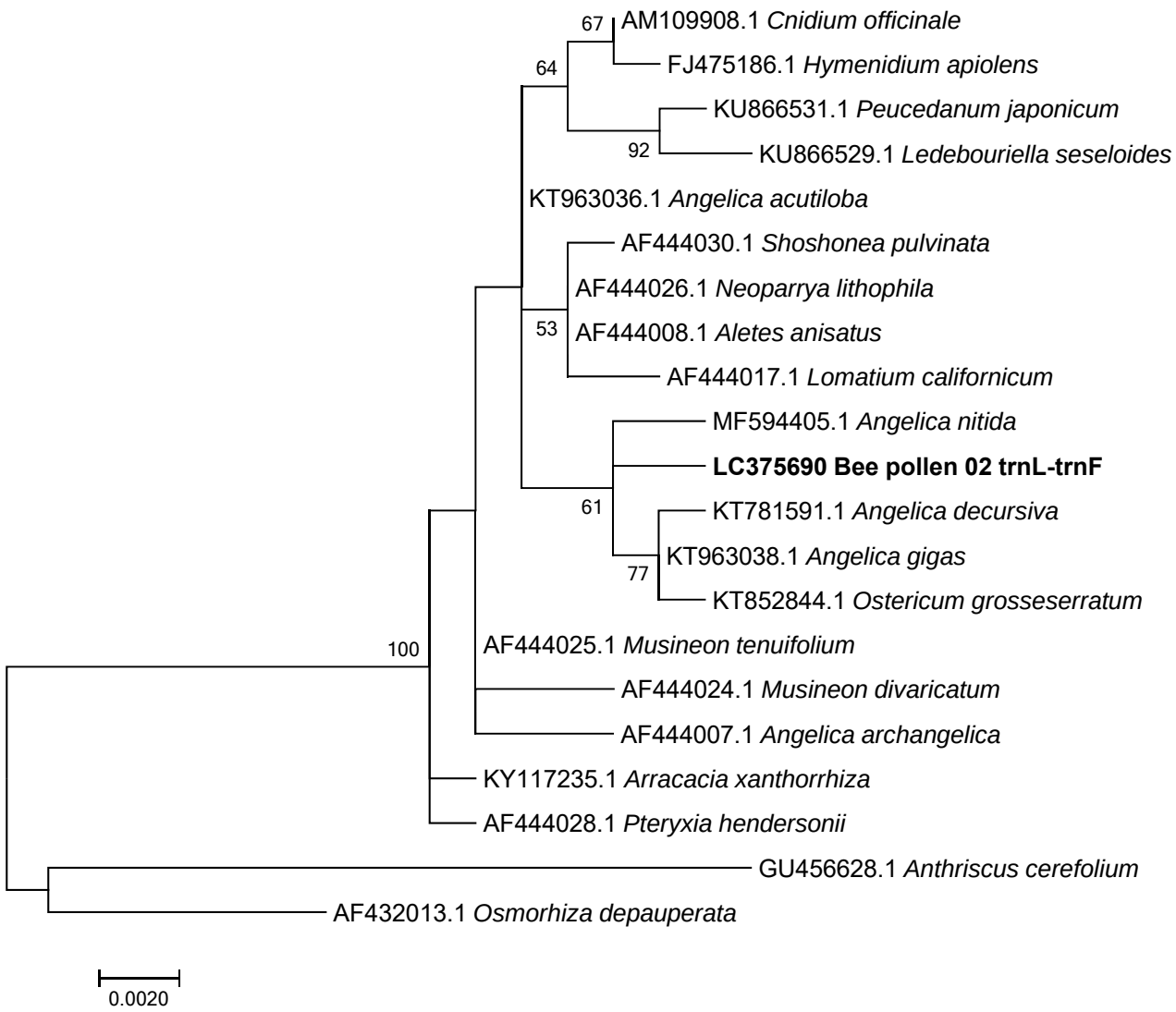
Fig. S1 Molecular phylogenetic trees of honeybee pollen pellets by maximum likelihood method in *trnL-trnF*

The evolutionary history was inferred by using the maximum likelihood method based on the Tamura–Nei model. The tree with the highest log likelihood is shown. The percentage of trees in which the associated taxa clustered together is shown next to the branches. Initial tree(s) for the heuristic search were obtained automatically by applying the Neighbor-Join and BioNJ algorithms to a matrix of pairwise distances estimated using the maximum composite likelihood approach, and then selecting the topology with superior log likelihood value. Each tree is drawn to scale, with branch lengths indicating the number of substitutions per site. The analysis involved 10–21 nucleotide sequences. All positions containing gaps and missing data were eliminated. Evolutionary analyses were conducted in MEGA7. The numbering of honeybee pollen pellets is as follows: (a) No. 1; (b) No. 2; (c) No. 3; (d) No. 4; (e) No. 5; (f) No. 6; (g) No. 7; (h) No. 10; (i) No. 11; (j) No. 12; (k) No. 13; (l) No. 14; (m) No. 15; (n) No. 16; (o) No. 18; (p) No. 19; (q) No. 20; (r) No. 22; (s) No. 25; (t) No. 26; (u) No. 27; (v) No. 28; (w) No. 29; (x) No. 30; (y) No. 31.

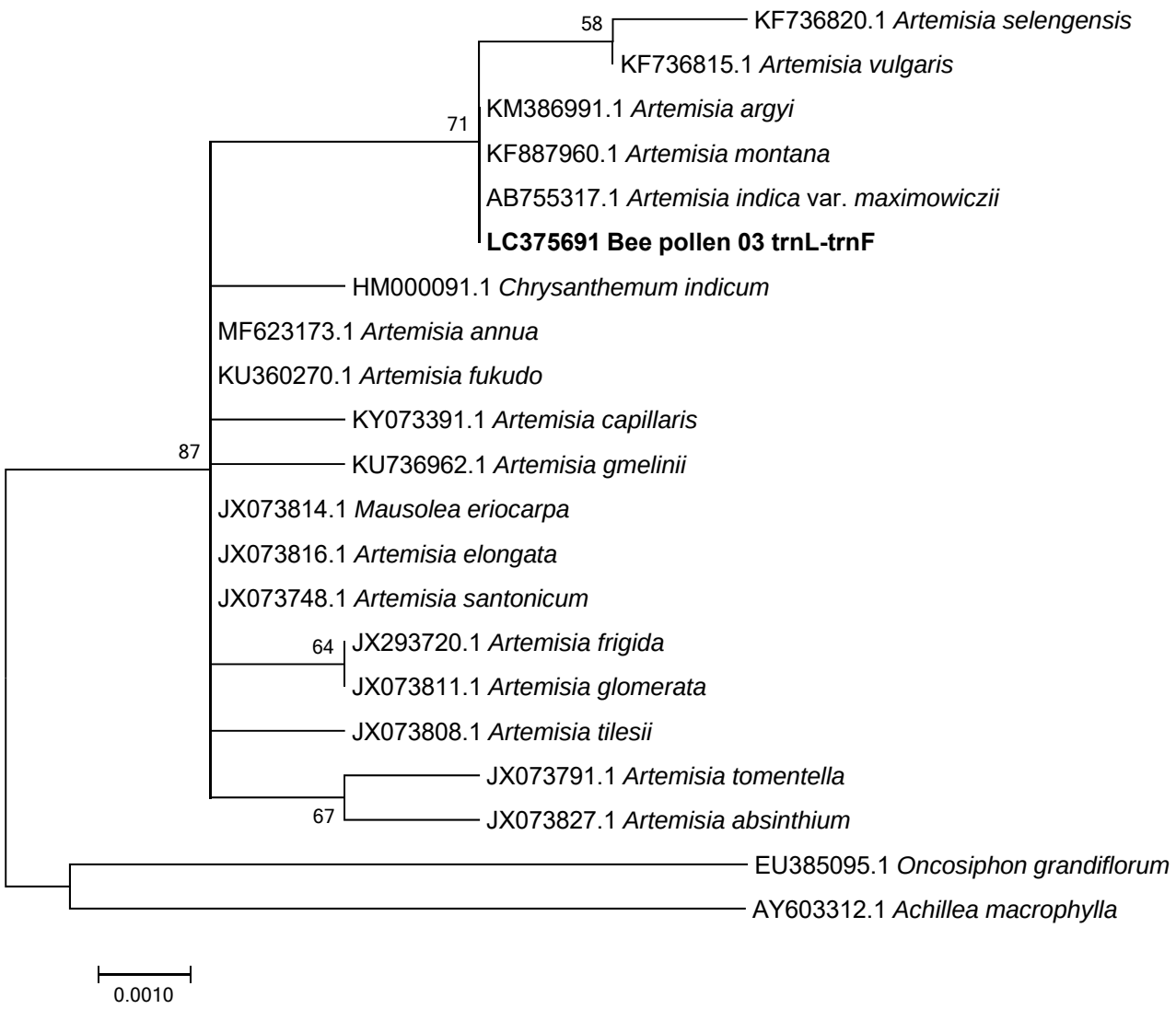
(a)


AJ549007.1 Actinidia valvata var. valvata
87
LC375689 Bee pollen 01 trnL-trnF
AJ549026.1 Actinidia polygama
AJ548990.1 Actinidia chrysantha
59
KP297244.1 Actinidia deliciosa
KR819715.1 Actinidia chinensis
50
AJ549014.1 Actinidia rufa
KR819722.1 Actinidia venosa
89
KR819717.1 Actinidia pilosula
78
KR819721.1 Actinidia strigosa
95
KX345298.1 Actinidia tetramera
73
KR819716.1 Actinidia kolomikta
KY100978.1 Actinidia arguta
KX345299.1 Clematoclethra scandens subsp. hemsleyi
KR819762.1 Saurauia spectabilis
KR819725.1 Darlingtonia californica
0.0050

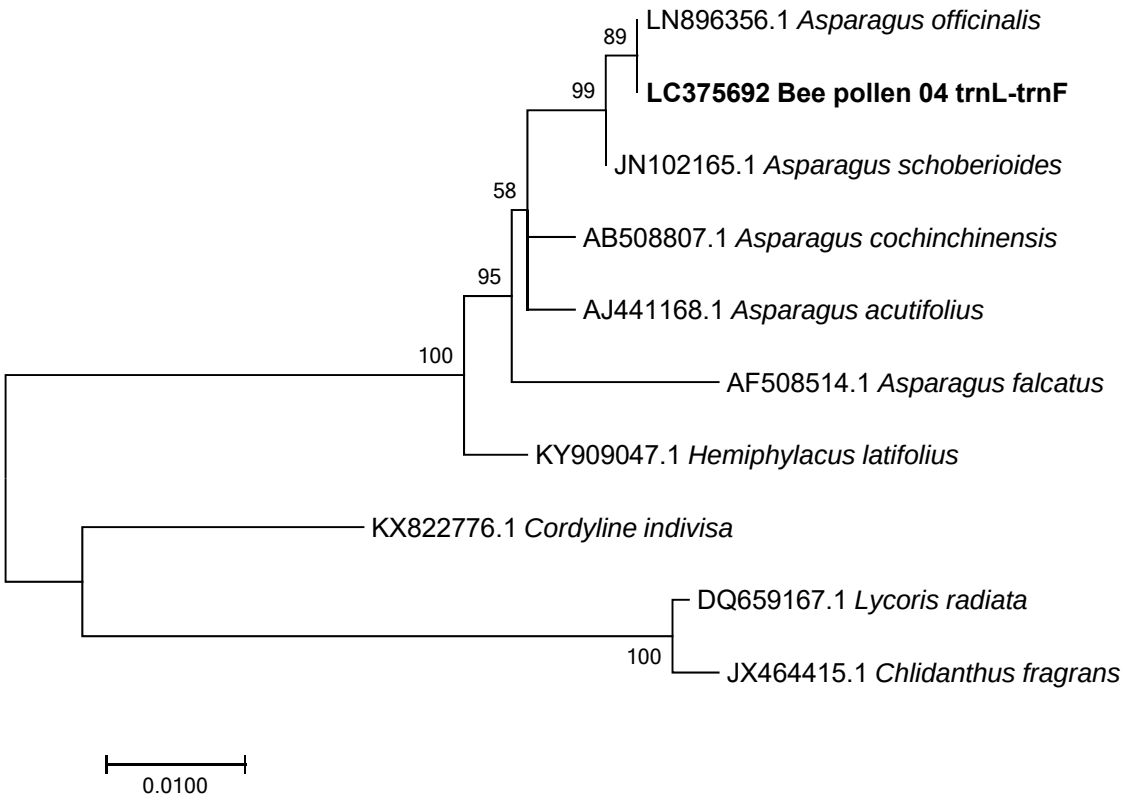
(b)


67
AM109908.1 Cnidium officinale
64
FJ475186.1 Hymenidium apiolens
KU866531.1 Peucedanum japonicum
92
KU866529.1 Ledebouriella seseloides
KT963036.1 Angelica acutiloba
AF444030.1 Shoshonea pulvinata
AF444026.1 Neoparrya lithophila
53
AF444008.1 Aletes anisatus
AF444017.1 Lomatium californicum
MF594405.1 Angelica nitida
LC375690 Bee pollen 02 trnL-trnF
61
KT781591.1 Angelica decursiva
KT963038.1 Angelica gigas
77
KT852844.1 Ostericum grosseserratum
100
AF444025.1 Musineon tenuifolium
AF444024.1 Musineon divaricatum
AF444007.1 Angelica archangelica
KY117235.1 Arracacia xanthorrhiza
AF444028.1 Pteryxia hendersonii
GU456628.1 Anthriscus cerefolium
AF432013.1 Osmorhiza depauperata
0.0020

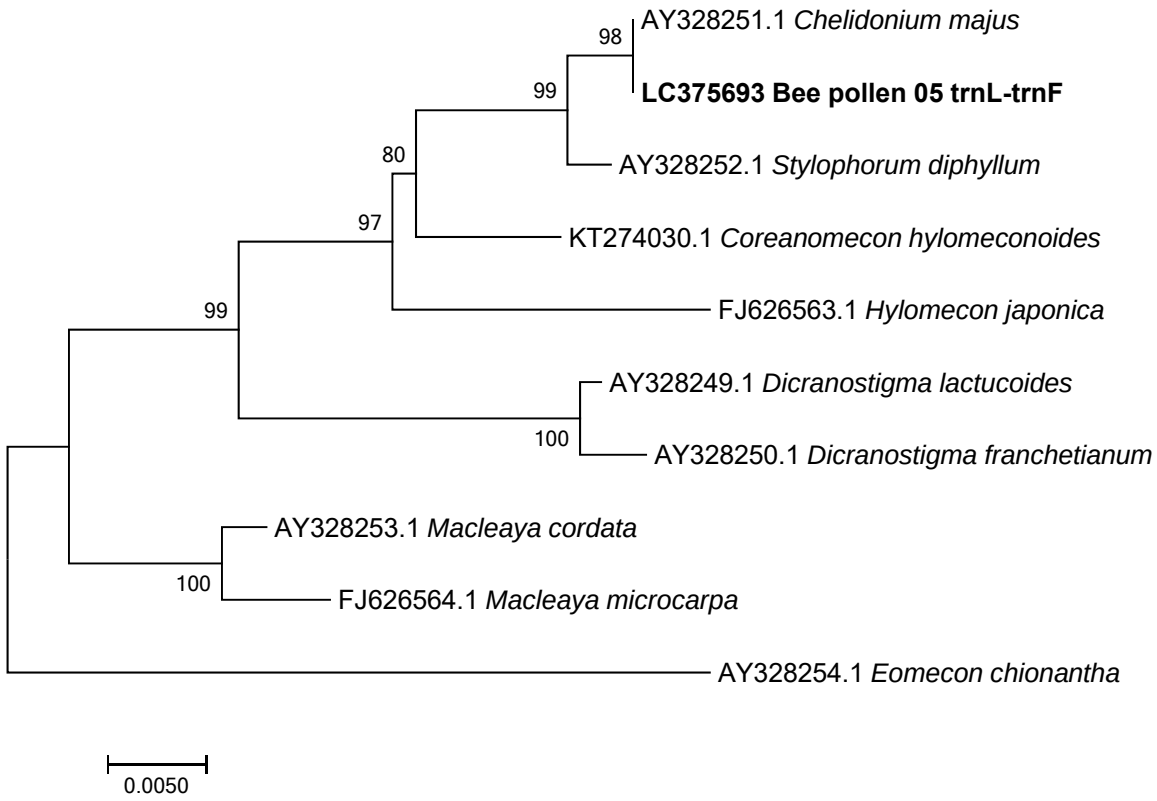
(c)


58
KF736820.1 Artemisia selengensis
KF736815.1 Artemisia vulgaris
71
KM386991.1 Artemisia argyi
KF887960.1 Artemisia montana
AB755317.1 Artemisia indica var. maximowiczii
LC375691 Bee pollen 03 trnL-trnF
HM000091.1 Chrysanthemum indicum
MF623173.1 Artemisia annua
KU360270.1 Artemisia fukudo
KY073391.1 Artemisia capillaris
87
KU736962.1 Artemisia gmelinii
JX073814.1 Mausolea eriocarpa
JX073816.1 Artemisia elongata
JX073748.1 Artemisia santonicum
64
JX293720.1 Artemisia frigida
JX073811.1 Artemisia glomerata
JX073808.1 Artemisia tilesii
JX073791.1 Artemisia tomentella
67
JX073827.1 Artemisia absinthium
EU385095.1 Oncosiphon grandiflorum
AY603312.1 Achillea macrophylla
0.0010

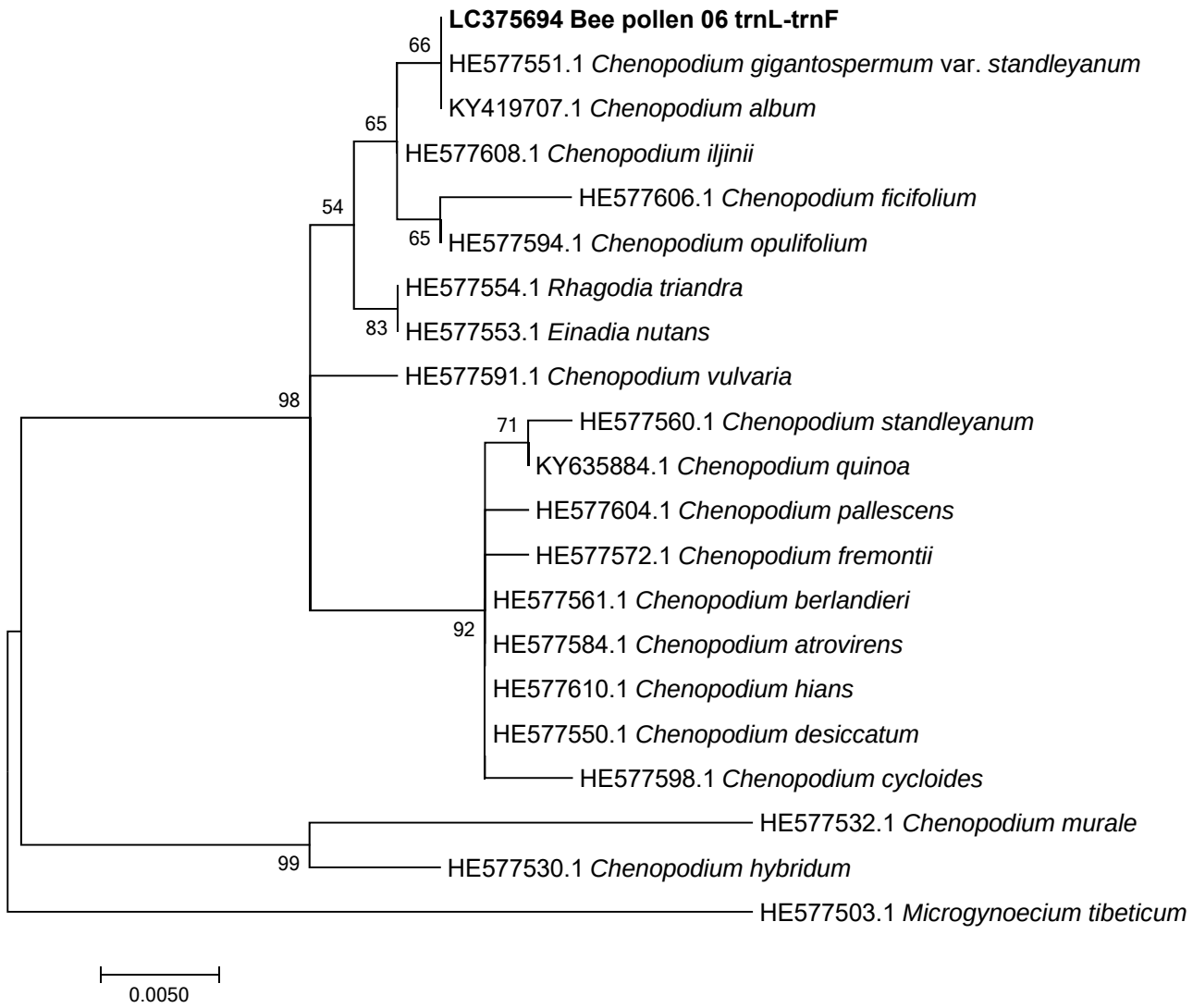
(d)


LN896356.1 Asparagus officinalis
89
99
LC375692 Bee pollen 04 trnL-trnF
JN102165.1 Asparagus schoberioides
58
AB508807.1 Asparagus cochinchinensis
95
AJ441168.1 Asparagus acutifolius
100
AF508514.1 Asparagus falcatus
KY909047.1 Hemiphylacus latifolius
KX822776.1 Cordyline indivisa
DQ659167.1 Lycoris radiata
100
JX464415.1 Chlidanthus fragrans
0.0100

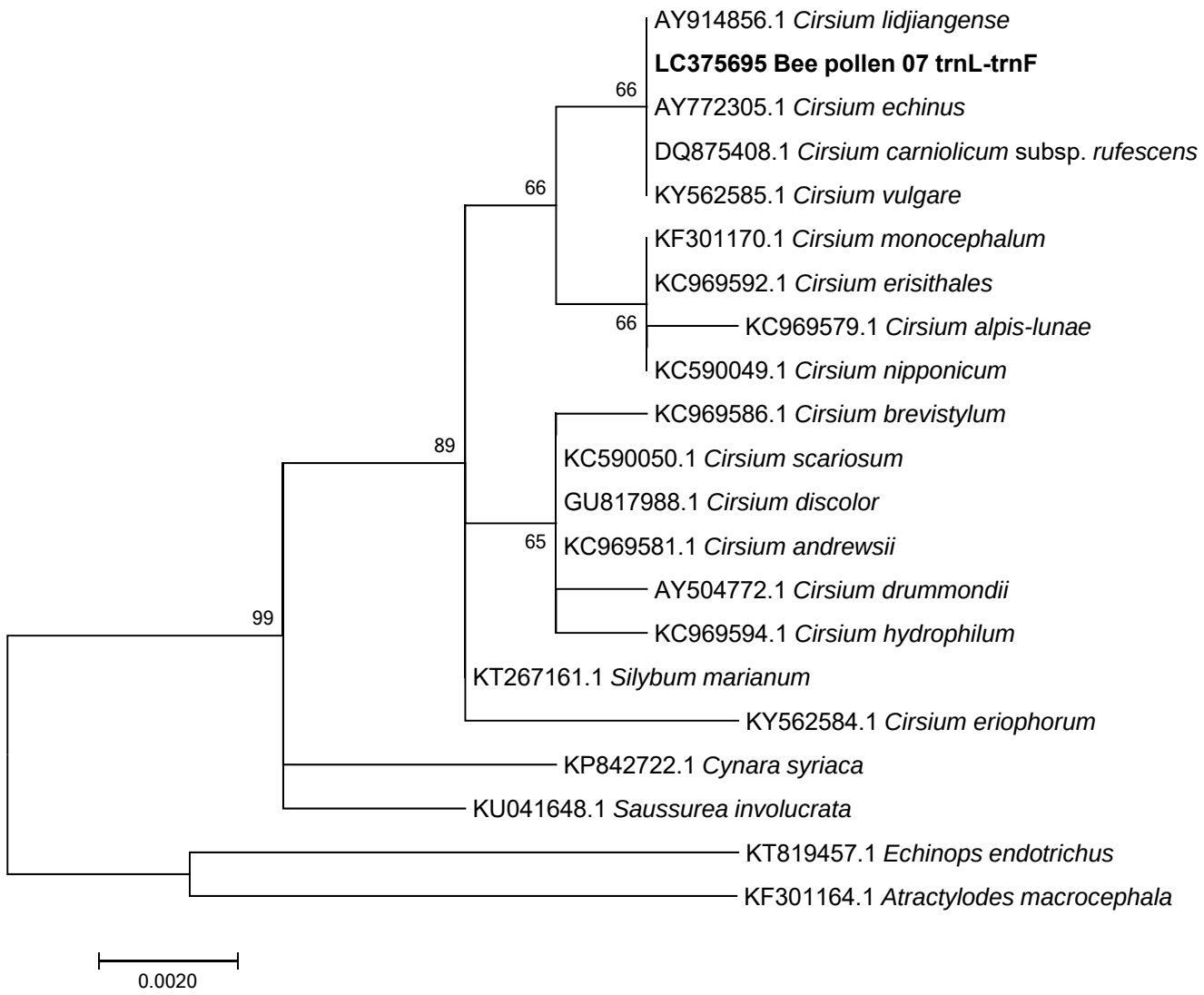
(e)


AY328251.1 Chelidonium majus
98
99
LC375693 Bee pollen 05 trnL-trnF
80
AY328252.1 Stylophorum diphyllum
97
KT274030.1 Coreanomecon hylomeconoides
99
FJ626563.1 Hylomecon japonica
AY328249.1 Dicranostigma lactucoides
100
AY328250.1 Dicranostigma franchetianum
AY328253.1 Macleaya cordata
100
FJ626564.1 Macleaya microcarpa
AY328254.1 Eomecon chionantha
0.0050

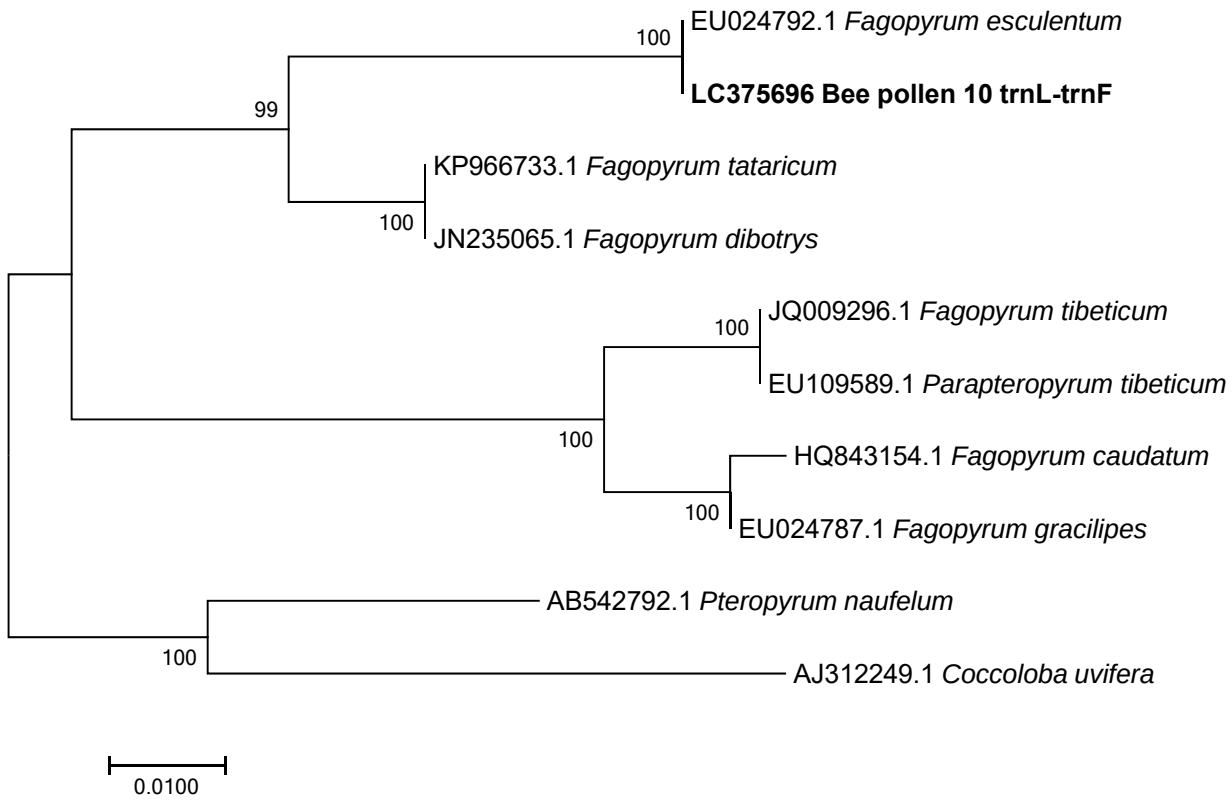
(f)


LC375694 Bee pollen 06 trnL-trnF
HE577551.1 Chenopodium gigantospermum var. standleyanum
KY419707.1 Chenopodium album
HE577608.1 Chenopodium iljinii
HE577606.1 Chenopodium ficifolium
HE577594.1 Chenopodium opulifolium
HE577554.1 Rhagodia triandra
HE577553.1 Einadia nutans
HE577591.1 Chenopodium vulvaria
HE577560.1 Chenopodium standleyanum
KY635884.1 Chenopodium quinoa
HE577604.1 Chenopodium pallescens
HE577572.1 Chenopodium fremontii
HE577561.1 Chenopodium berlandieri
HE577584.1 Chenopodium atrovirens
HE577610.1 Chenopodium hians
HE577550.1 Chenopodium desiccatum
HE577598.1 Chenopodium cycloides
HE577532.1 Chenopodium murale
HE577530.1 Chenopodium hybridum
HE577503.1 Microgynoecium tibeticum
66
65
54
65
83
98
71
92
99
0.0050

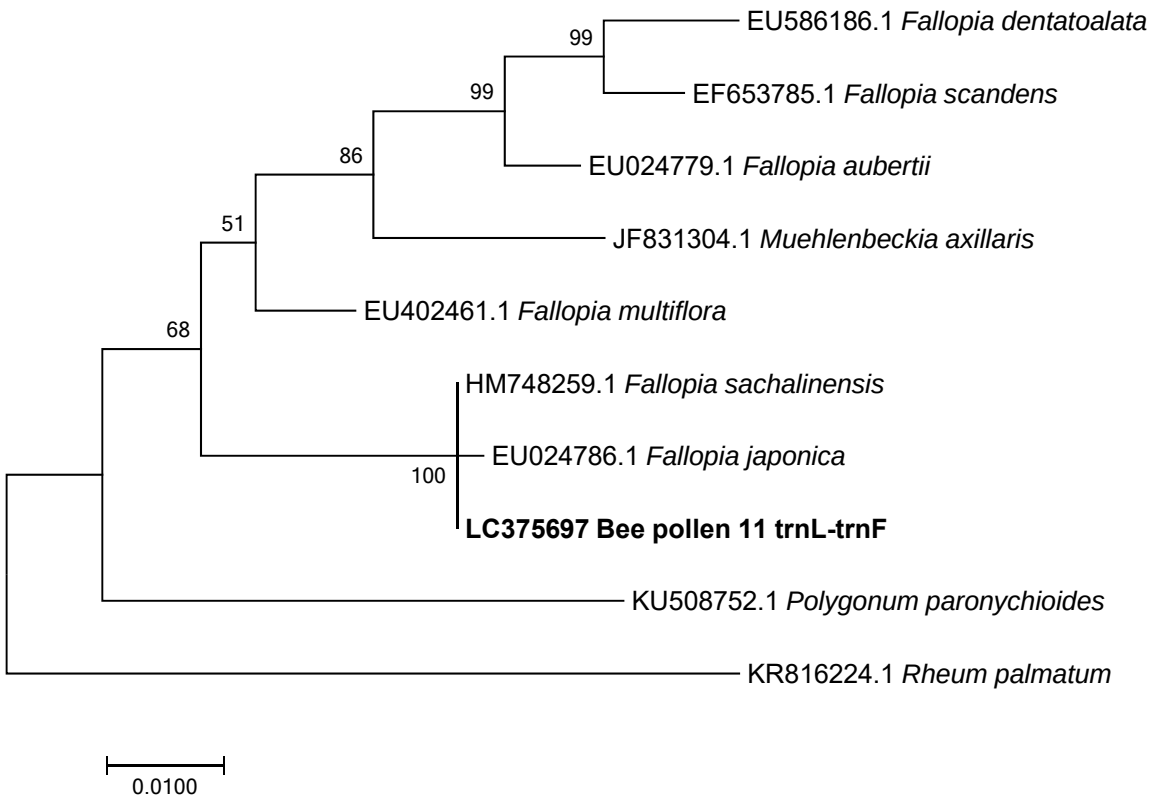
(g)


AY914856.1 Cirsium lidjiangense
LC375695 Bee pollen 07 trnL-trnF
AY772305.1 Cirsium echinus
DQ875408.1 Cirsium carniolicum subsp. rufescens
KY562585.1 Cirsium vulgare
KF301170.1 Cirsium monocephalum
KC969592.1 Cirsium erisithales
KC969579.1 Cirsium alpis-lunae
KC590049.1 Cirsium nipponicum
KC969586.1 Cirsium brevistylum
KC590050.1 Cirsium scariosum
GU817988.1 Cirsium discolor
KC969581.1 Cirsium andrewsii
AY504772.1 Cirsium drummondii
KC969594.1 Cirsium hydrophilum
KT267161.1 Silybum marianum
KY562584.1 Cirsium eriophorum
KP842722.1 Cynara syriaca
KU041648.1 Saussurea involucrata
KT819457.1 Echinops endotrichus
KF301164.1 Atractylodes macrocephala
66
66
66
89
65
99
0.0020

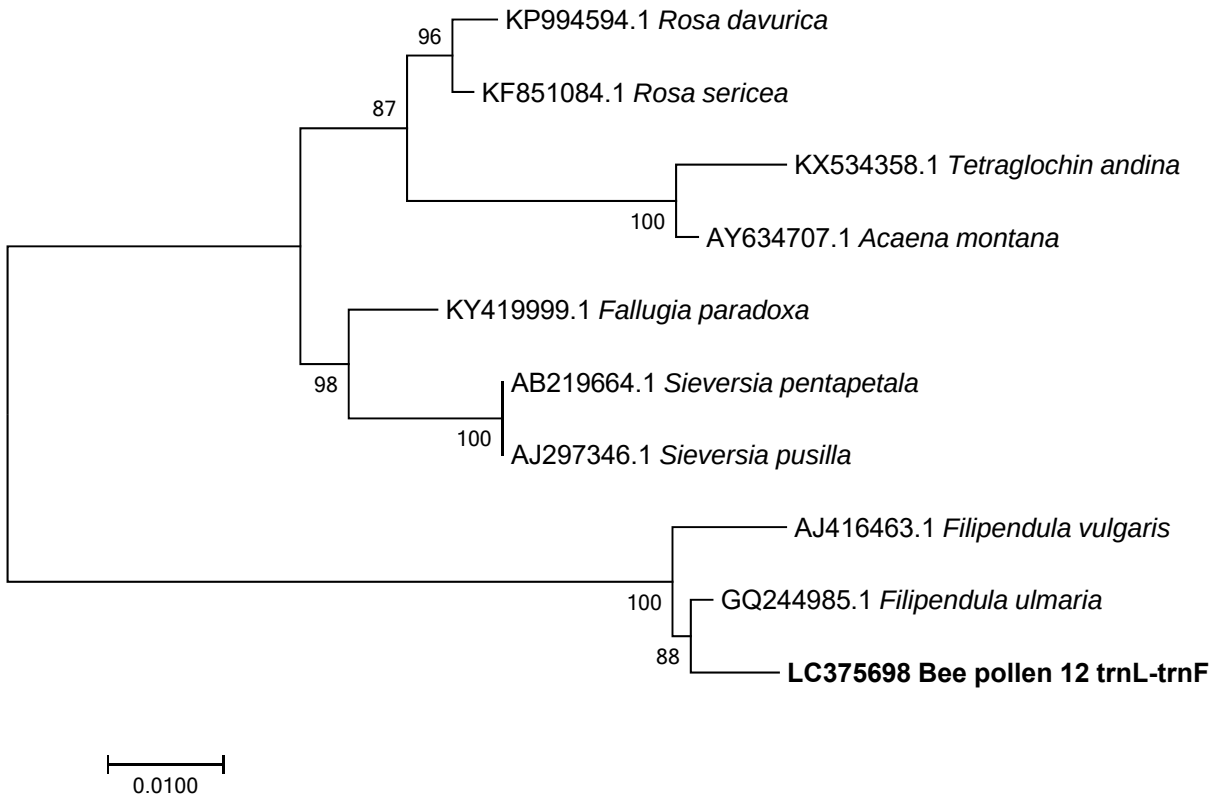
(h)


EU024792.1 Fagopyrum esculentum
100
LC375696 Bee pollen 10 trnL-trnF
99
KP966733.1 Fagopyrum tataricum
100
JN235065.1 Fagopyrum dibotrys
JQ009296.1 Fagopyrum tibeticum
100
EU109589.1 Parapteropyrum tibeticum
100
HQ843154.1 Fagopyrum caudatum
100
EU024787.1 Fagopyrum gracilipes
AB542792.1 Pteropyrum naufelum
100
AJ312249.1 Coccoloba uvifera
0.0100

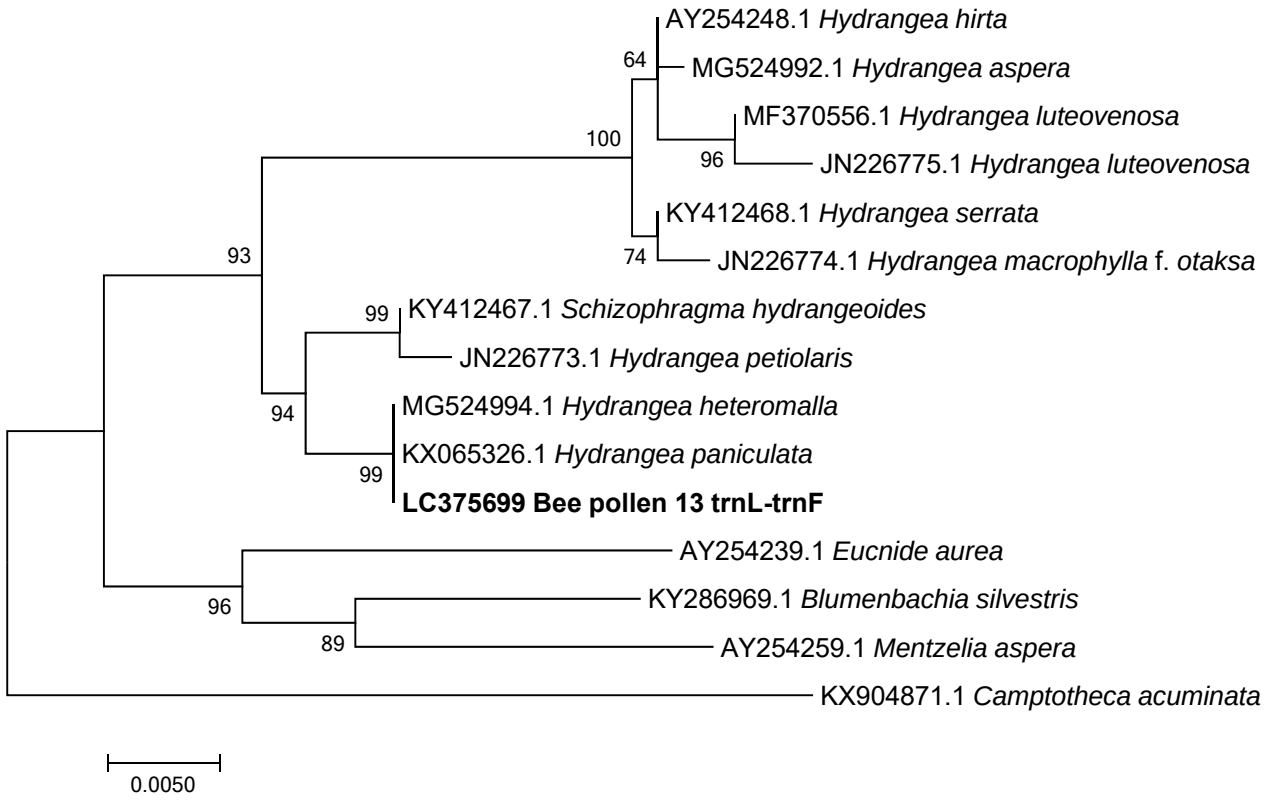
(i)


EU586186.1 Fallopia dentatoalata
99
EF653785.1 Fallopia scandens
99
EU024779.1 Fallopia aubertii
86
JF831304.1 Muehlenbeckia axillaris
51
EU402461.1 Fallopia multiflora
68
HM748259.1 Fallopia sachalinensis
EU024786.1 Fallopia japonica
100
LC375697 Bee pollen 11 trnL-trnF
KU508752.1 Polygonum paronychioides
KR816224.1 Rheum palmatum
0.0100

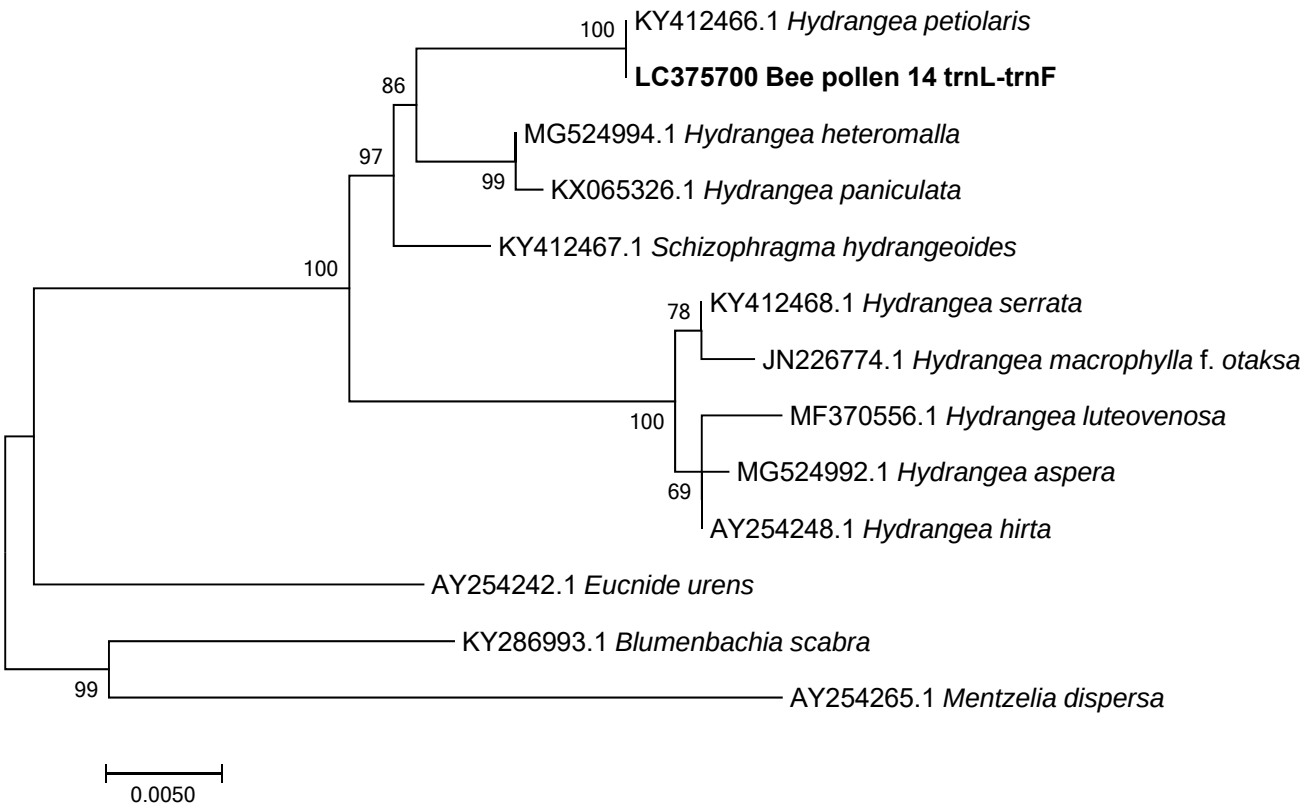
(j)


KP994594.1 Rosa davurica
96
KF851084.1 Rosa sericea
87
KX534358.1 Tetraglochin andina
100
AY634707.1 Acaena montana
KY419999.1 Fallugia paradoxa
98
AB219664.1 Sieversia pentapetala
100
AJ297346.1 Sieversia pusilla
AJ416463.1 Filipendula vulgaris
100
GQ244985.1 Filipendula ulmaria
88
LC375698 Bee pollen 12 trnL-trnF
0.0100

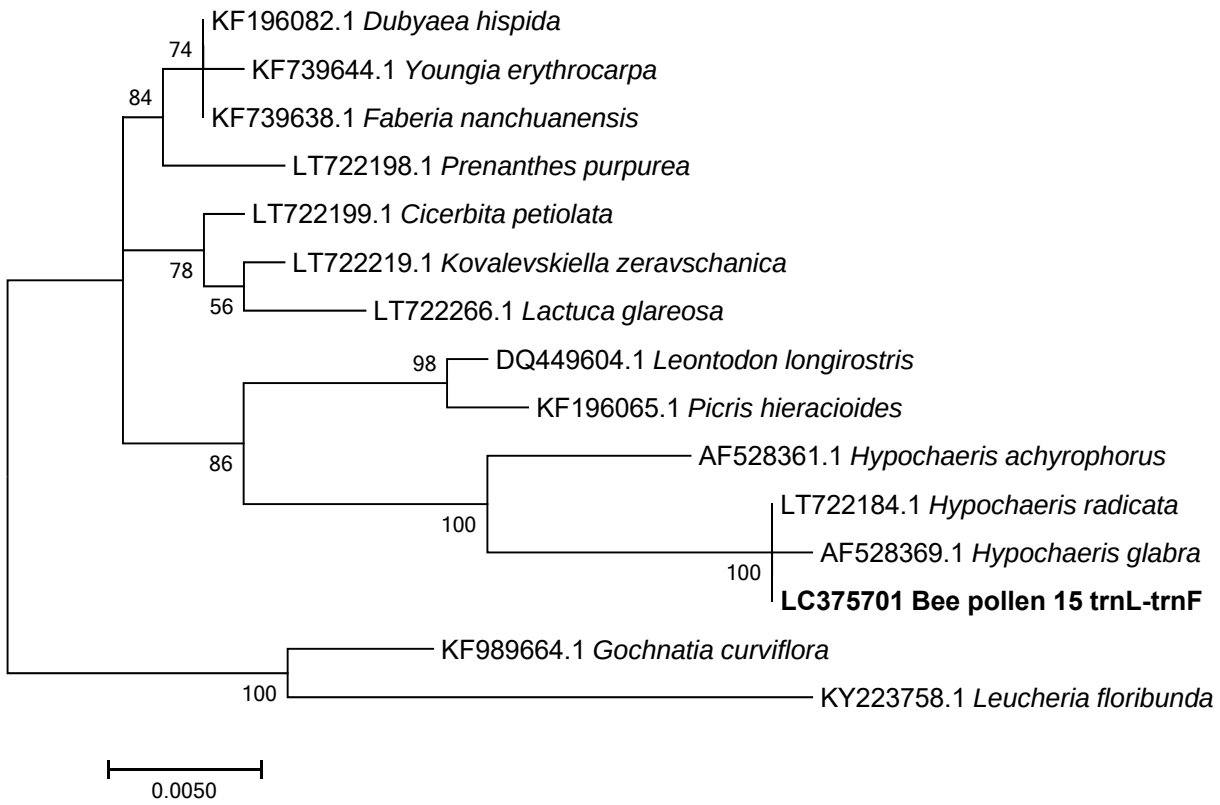
(k)


AY254248.1 Hydrangea hirta
64
MG524992.1 Hydrangea aspera
MF370556.1 Hydrangea luteovenosa
100
96
JN226775.1 Hydrangea luteovenosa
KY412468.1 Hydrangea serrata
93
74
JN226774.1 Hydrangea macrophylla f. otaksa
99
KY412467.1 Schizophragma hydrangeoides
JN226773.1 Hydrangea petiolaris
94
MG524994.1 Hydrangea heteromalla
KX065326.1 Hydrangea paniculata
99
LC375699 Bee pollen 13 trnL-trnF
AY254239.1 Eucnide aurea
96
KY286969.1 Blumenbachia silvestris
89
AY254259.1 Mentzelia aspera
KX904871.1 Camptotheca acuminata
0.0050

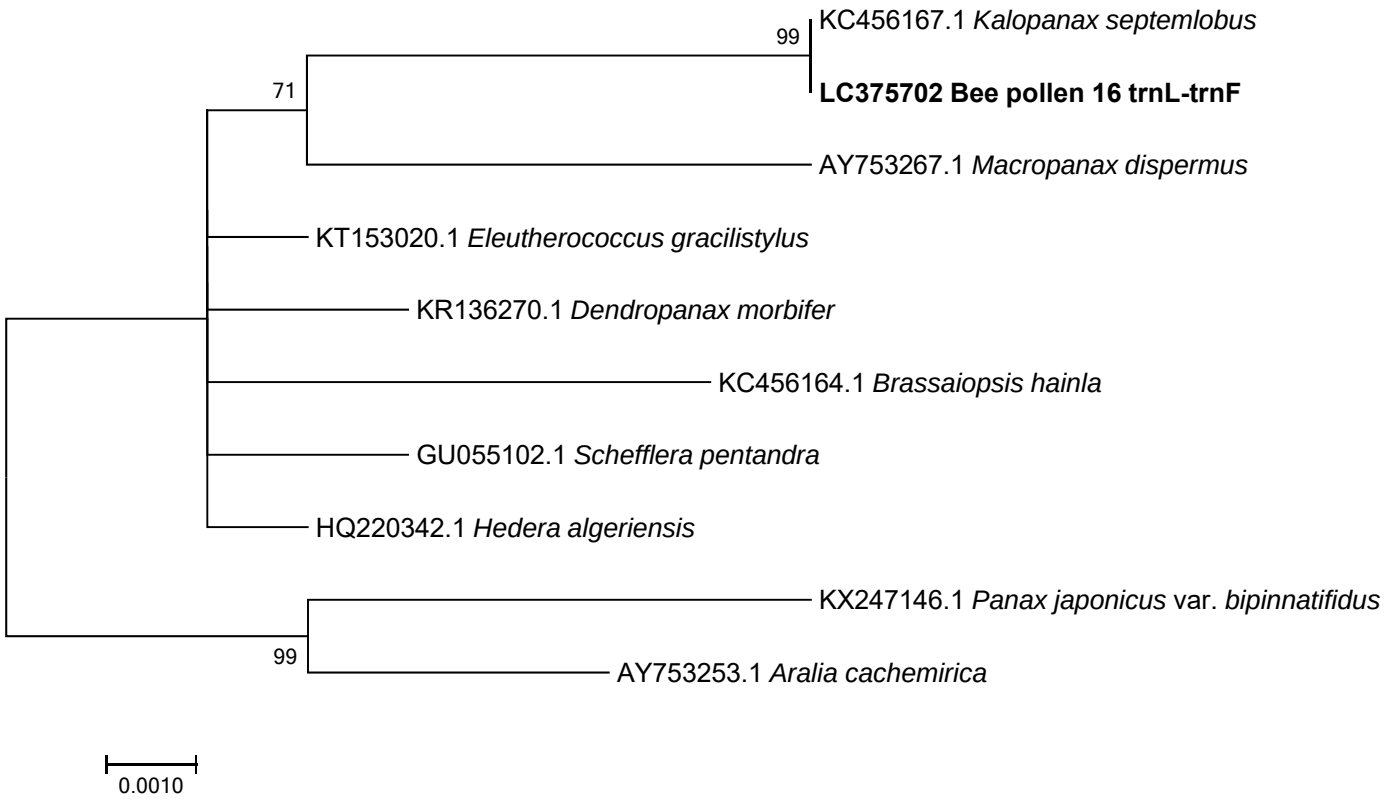
(I)


100
KY412466.1 Hydrangea petiolaris
LC375700 Bee pollen 14 trnL-trnF
86
MG524994.1 Hydrangea heteromalla
97
99
KX065326.1 Hydrangea paniculata
KY412467.1 Schizophragma hydrangeoides
100
78
KY412468.1 Hydrangea serrata
JN226774.1 Hydrangea macrophylla f. otaksa
100
MF370556.1 Hydrangea luteovenosa
MG524992.1 Hydrangea aspera
69
AY254248.1 Hydrangea hirta
AY254242.1 Eucnide urens
KY286993.1 Blumenbachia scabra
99
AY254265.1 Mentzelia dispersa
0.0050

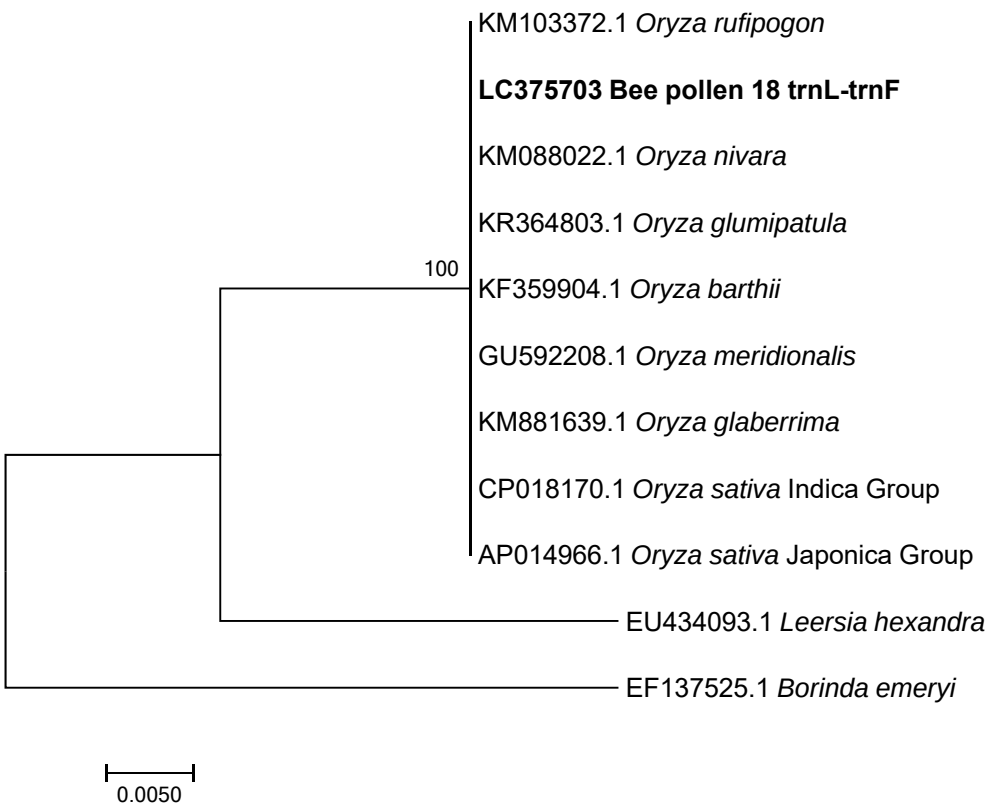
(m)


KF196082.1 Dubyaea hispida
74
KF739644.1 Youngia erythrocarpa
84
KF739638.1 Faberia nanchuanensis
LT722198.1 Prenanthes purpurea
LT722199.1 Cicerbita petiolata
78
LT722219.1 Kovalevskiella zeravschanica
56
LT722266.1 Lactuca glareosa
98
DQ449604.1 Leontodon longirostris
KF196065.1 Picris hieracioides
86
AF528361.1 Hypochaeris achyrophorus
LT722184.1 Hypochaeris radicata
100
AF528369.1 Hypochaeris glabra
100
LC375701 Bee pollen 15 trnL-trnF
KF989664.1 Gochnatia curviflora
100
KY223758.1 Leucheria floribunda
0.0050

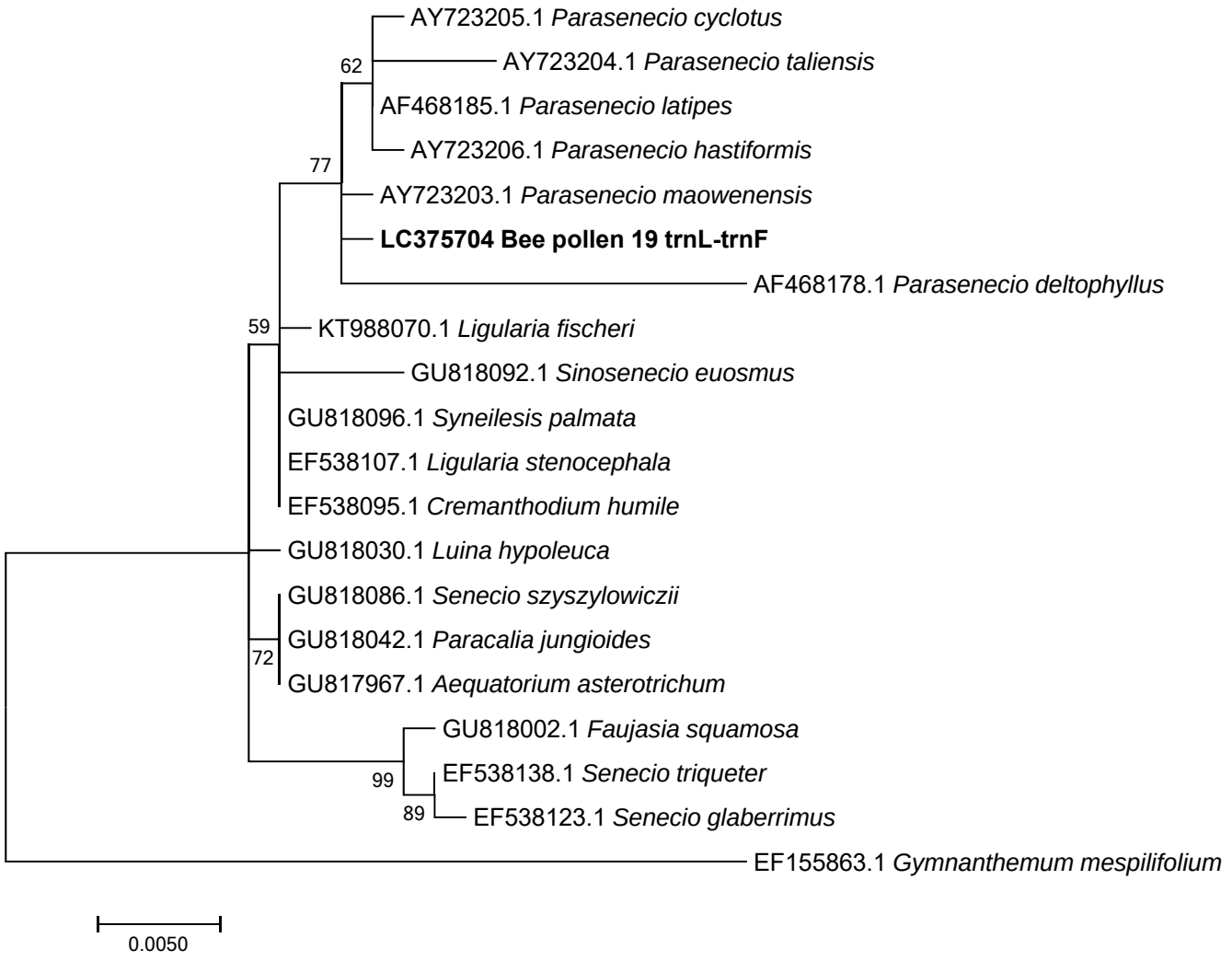
(n)


99
71
99
KC456167.1 Kalopanax septemlobus
LC375702 Bee pollen 16 trnL-trnF
AY753267.1 Macropanax dispermus
KT153020.1 Eleutherococcus gracilistylus
KR136270.1 Dendropanax morbifer
KC456164.1 Brassaiopsis hainla
GU055102.1 Schefflera pentandra
HQ220342.1 Hedera algeriensis
KX247146.1 Panax japonicus var. bipinnatifidus
AY753253.1 Aralia cachemirica
0.0010

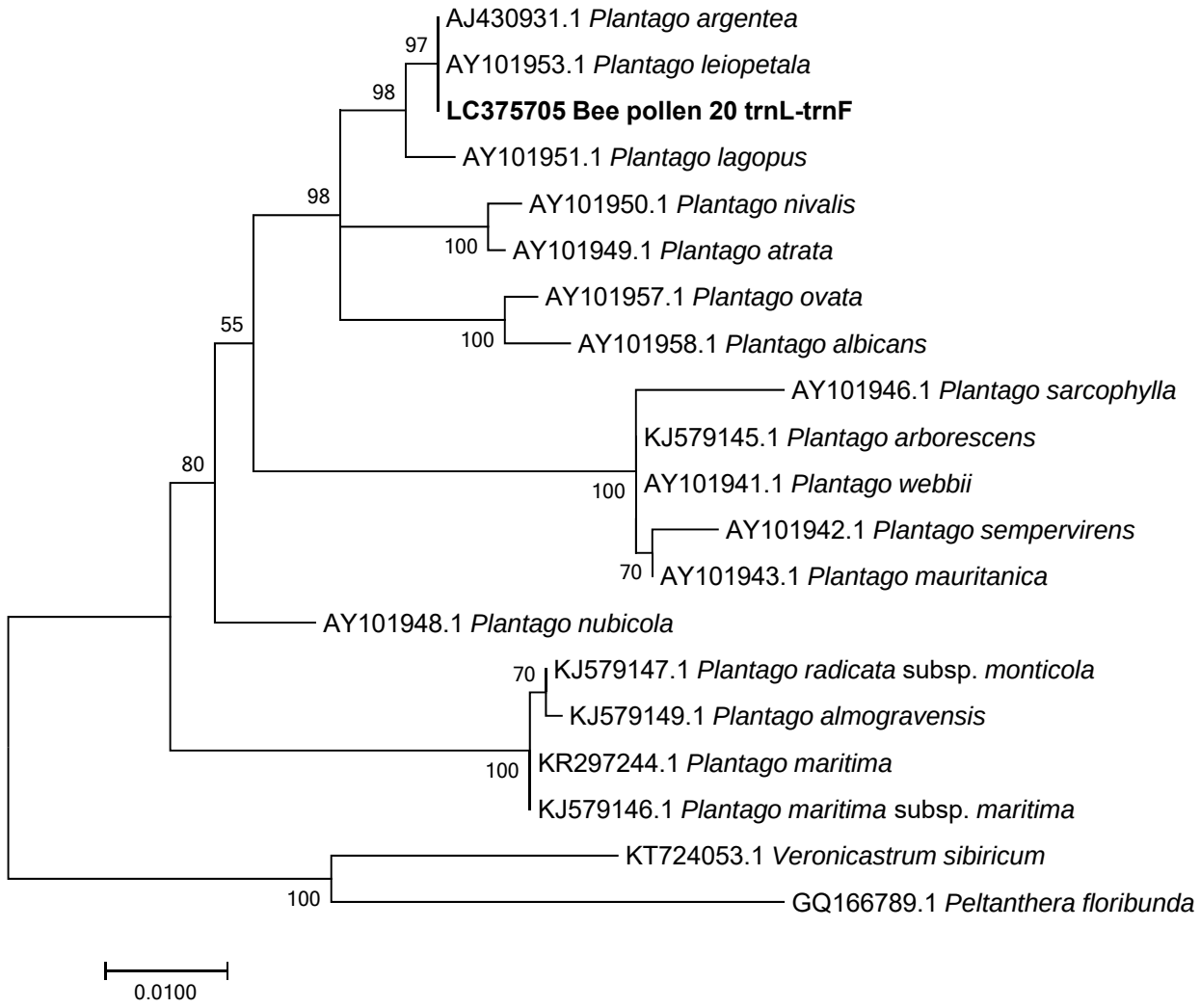
(o)


KM103372.1 Oryza rufipogon
LC375703 Bee pollen 18 trnL-trnF
KM088022.1 Oryza nivara
KR364803.1 Oryza glumipatula
100
KF359904.1 Oryza barthii
GU592208.1 Oryza meridionalis
KM881639.1 Oryza glaberrima
CP018170.1 Oryza sativa Indica Group
AP014966.1 Oryza sativa Japonica Group
EU434093.1 Leersia hexandra
EF137525.1 Borinda emeryi
0.0050

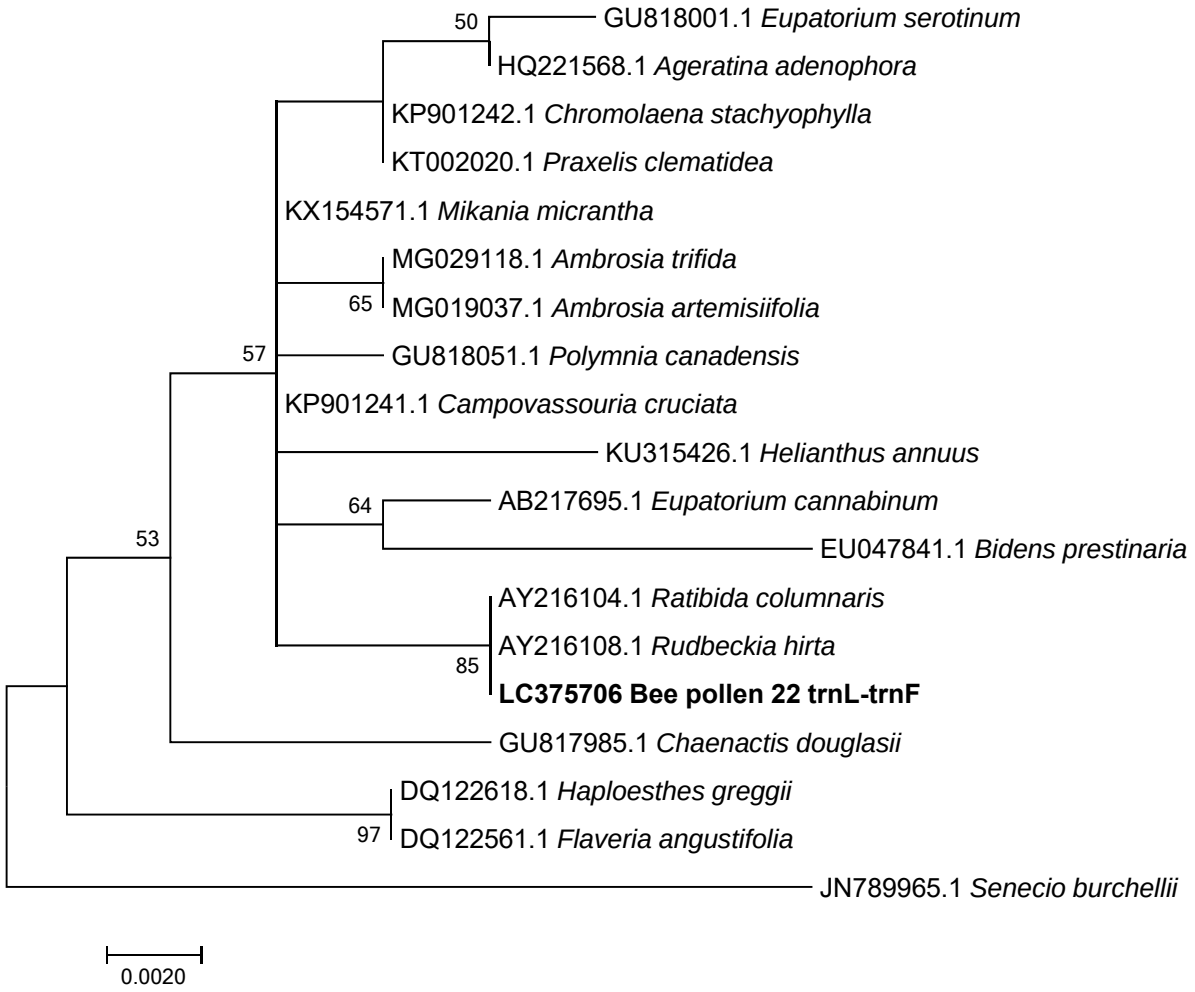
(p)


AY723205.1 Parasenecio cyclotus
AY723204.1 Parasenecio taliensis
62
AF468185.1 Parasenecio latipes
AY723206.1 Parasenecio hastiformis
77
AY723203.1 Parasenecio maowenensis
LC375704 Bee pollen 19 trnL-trnF
AF468178.1 Parasenecio deltophyllus
59
KT988070.1 Ligularia fischeri
GU818092.1 Sinosenecio euosmus
GU818096.1 Syneilesis palmata
EF538107.1 Ligularia stenocephala
EF538095.1 Cremanthodium humile
GU818030.1 Luina hypoleuca
GU818086.1 Senecio szyszylowiczii
GU818042.1 Paracalia jungioides
72
GU817967.1 Aequatorium asterotrichum
GU818002.1 Faujasia squamosa
99
EF538138.1 Senecio triqueter
89
EF538123.1 Senecio glaberrimus
EF155863.1 Gymnanthemum mespilifolium
0.0050

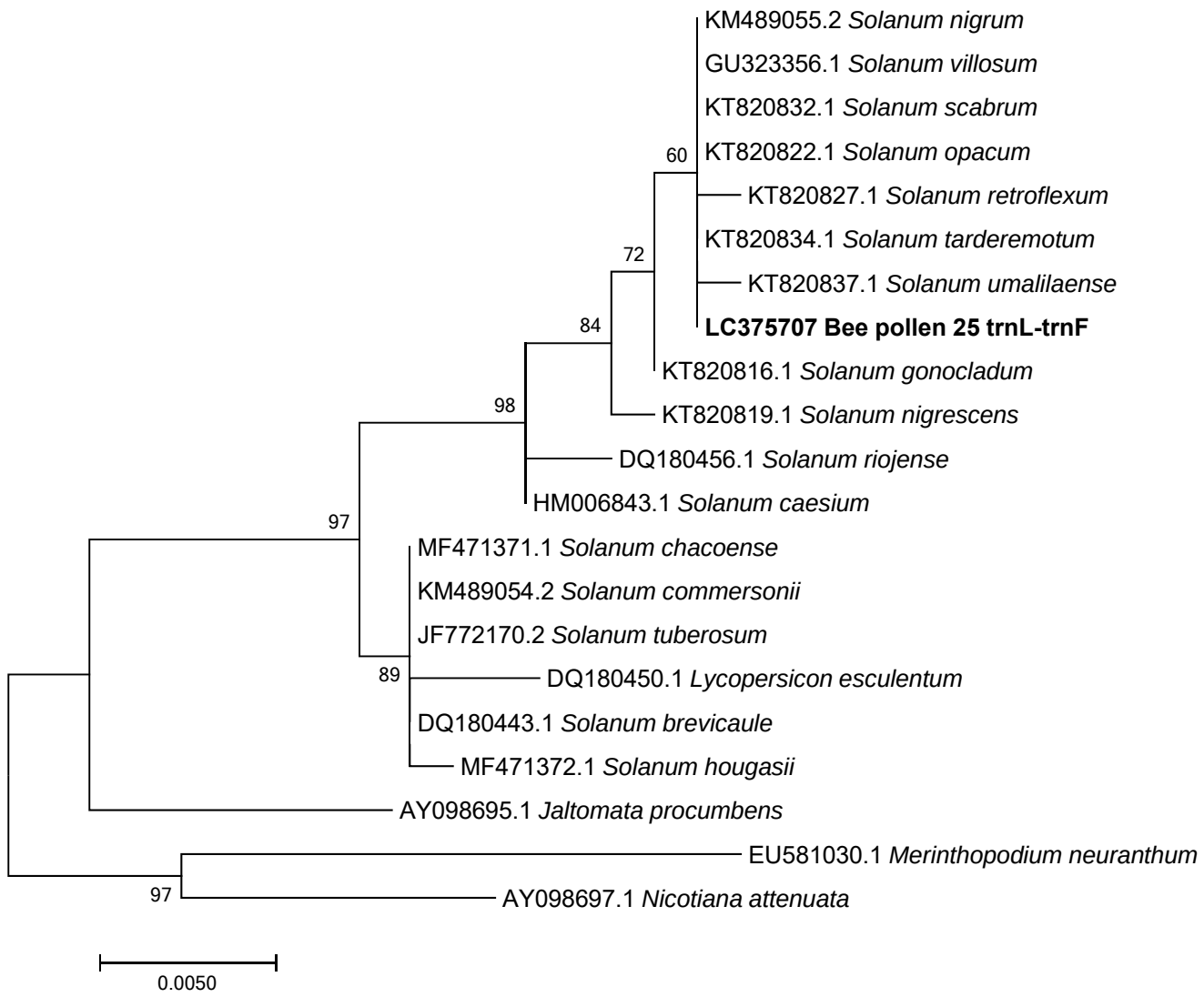
(q)


AJ430931.1 Plantago argentea
97
AY101953.1 Plantago leiopetala
98
LC375705 Bee pollen 20 trnL-trnF
AY101951.1 Plantago lagopus
98
AY101950.1 Plantago nivalis
100
AY101949.1 Plantago atrata
AY101957.1 Plantago ovata
55
100
AY101958.1 Plantago albicans
AY101946.1 Plantago sarcophylla
KJ579145.1 Plantago arborescens
80
AY101941.1 Plantago webbii
100
AY101942.1 Plantago sempervirens
70
AY101943.1 Plantago mauritanica
AY101948.1 Plantago nubicola
70
KJ579147.1 Plantago radicata subsp. monticola
KJ579149.1 Plantago almogravensis
100
KR297244.1 Plantago maritima
KJ579146.1 Plantago maritima subsp. maritima
KT724053.1 Veronicastrum sibiricum
100
GQ166789.1 Peltanthera floribunda
0.0100

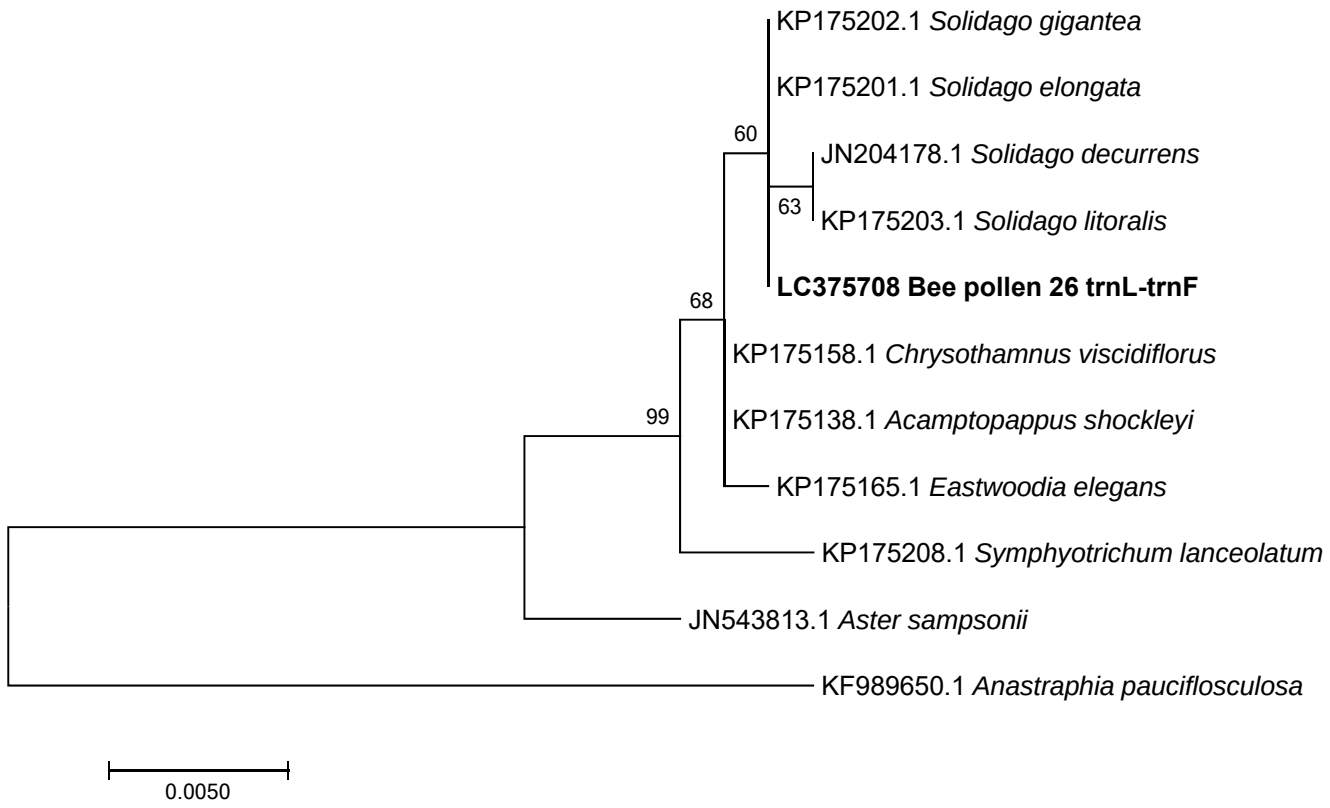
(r)


50
GU818001.1 Eupatorium serotinum
HQ221568.1 Ageratina adenophora
KP901242.1 Chromolaena stachyophylla
KT002020.1 Praxelis clematidea
KX154571.1 Mikania micrantha
MG029118.1 Ambrosia trifida
65
MG019037.1 Ambrosia artemisiifolia
57
GU818051.1 Polymnia canadensis
KP901241.1 Campovassouria cruciata
KU315426.1 Helianthus annuus
64
AB217695.1 Eupatorium cannabinum
53
EU047841.1 Bidens prestinaria
AY216104.1 Ratibida columnaris
AY216108.1 Rudbeckia hirta
85
LC375706 Bee pollen 22 trnL-trnF
GU817985.1 Chaenactis douglasii
DQ122618.1 Haploesthes greggii
97
DQ122561.1 Flaveria angustifolia
JN789965.1 Senecio burchellii
0.0020

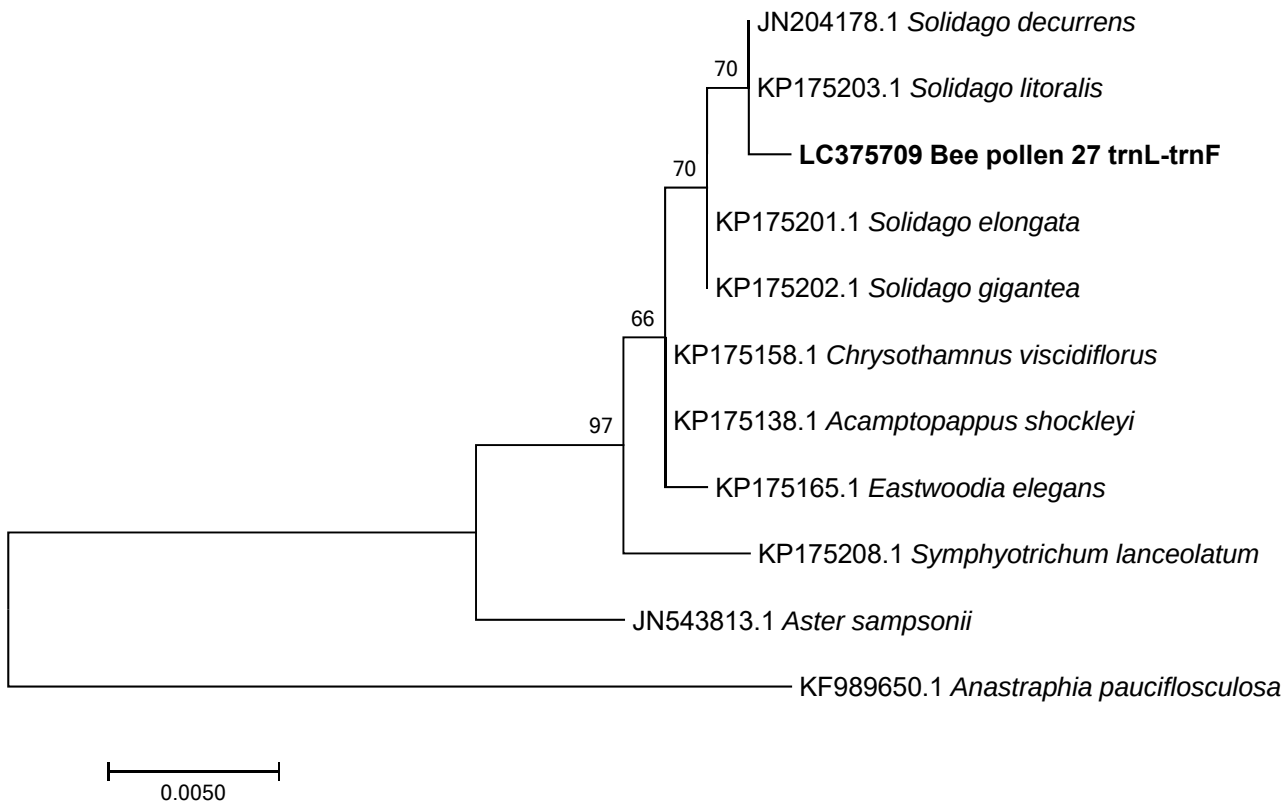
(s)


KM489055.2 Solanum nigrum
GU323356.1 Solanum villosum
KT820832.1 Solanum scabrum
KT820822.1 Solanum opacum
KT820827.1 Solanum retroflexum
KT820834.1 Solanum tarderemotum
KT820837.1 Solanum umalilaense
LC375707 Bee pollen 25 trnL-trnF
KT820816.1 Solanum gonocladum
KT820819.1 Solanum nigrescens
DQ180456.1 Solanum riojense
HM006843.1 Solanum caesium
MF471371.1 Solanum chacoense
KM489054.2 Solanum commersonii
JF772170.2 Solanum tuberosum
DQ180450.1 Lycopersicon esculentum
DQ180443.1 Solanum brevicaule
MF471372.1 Solanum hougasii
AY098695.1 Jaltomata procumbens
EU581030.1 Merinthopodium neuranthum
AY098697.1 Nicotiana attenuata
60
72
84
98
97
89
97
0.0050

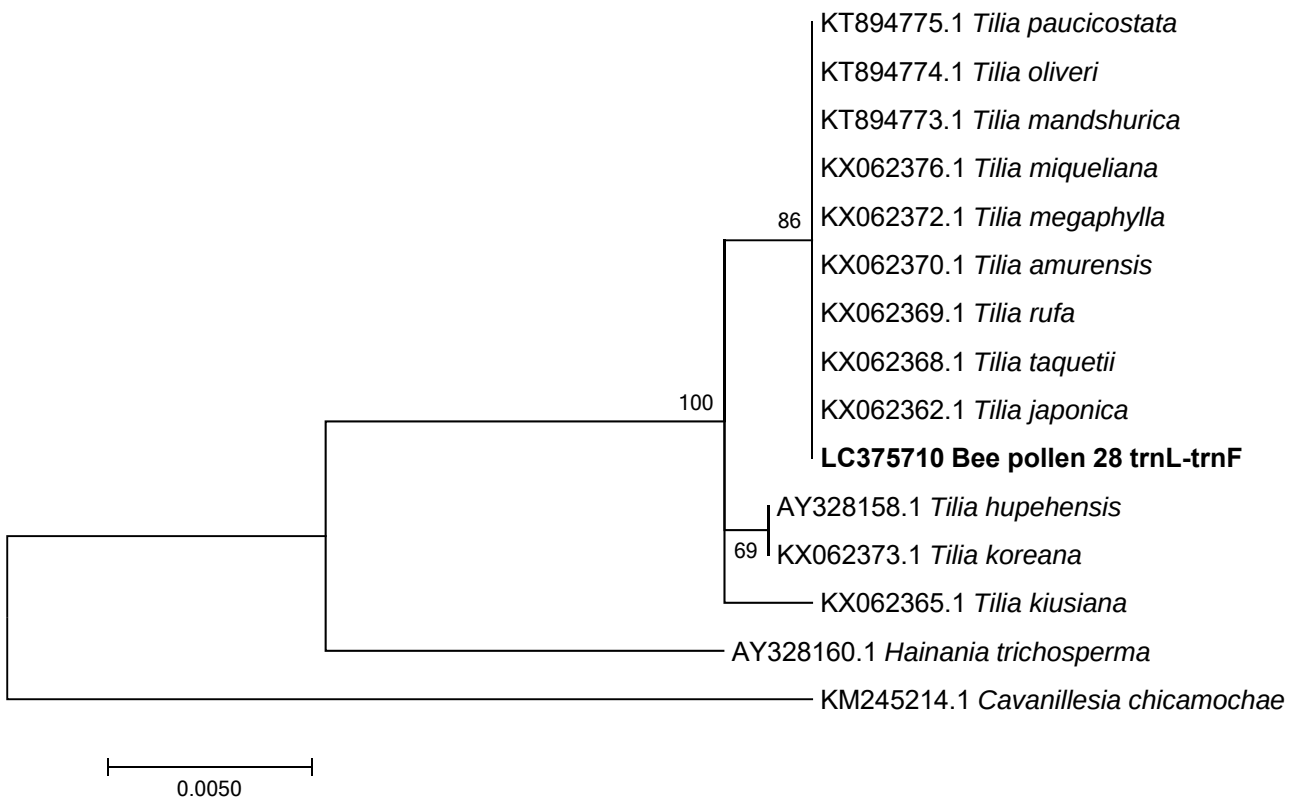
(t)


KP175202.1 Solidago gigantea
KP175201.1 Solidago elongata
60
JN204178.1 Solidago decurrens
63
KP175203.1 Solidago litoralis
LC375708 Bee pollen 26 trnL-trnF
68
KP175158.1 Chrysothamnus viscidiflorus
99
KP175138.1 Acamptopappus shockleyi
KP175165.1 Eastwoodia elegans
KP175208.1 Symphyotrichum lanceolatum
JN543813.1 Aster sampsonii
KF989650.1 Anastraphia pauciflosculosa
0.0050

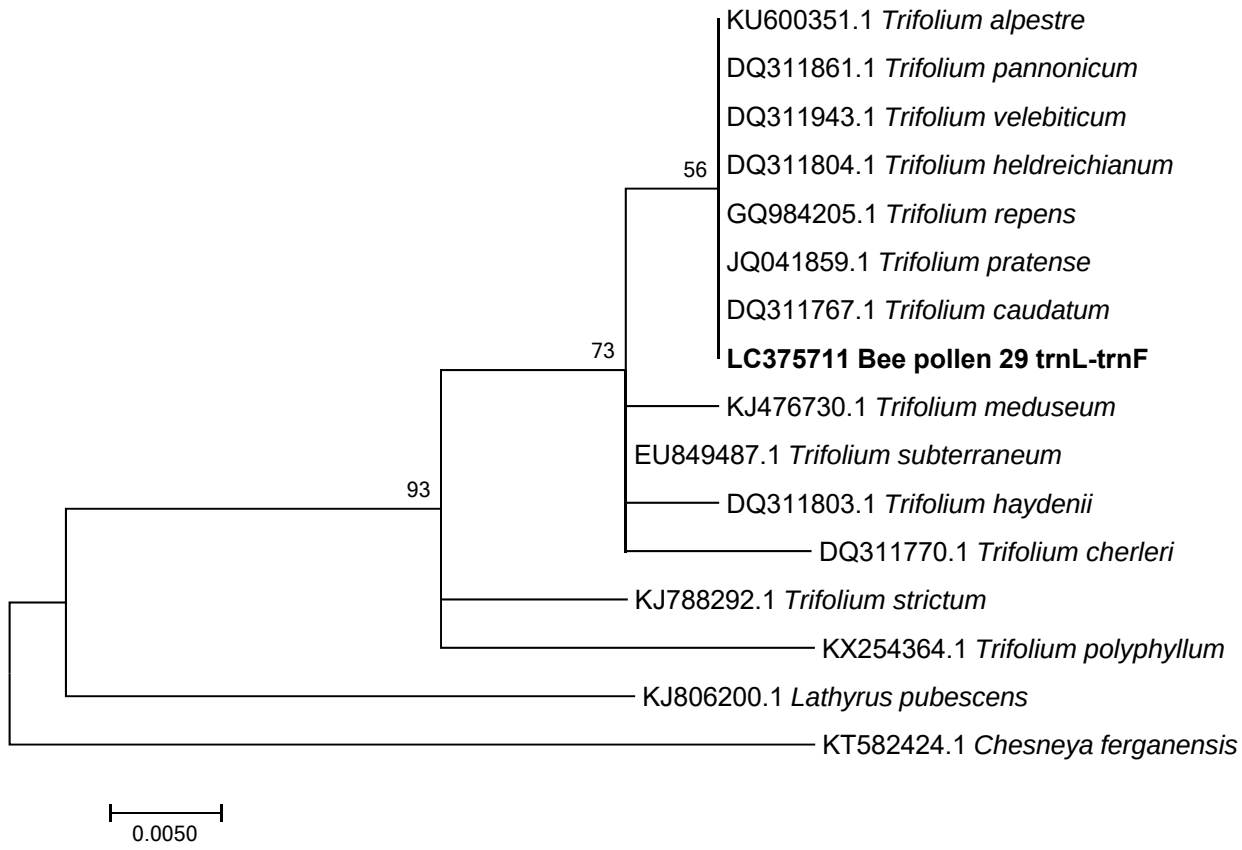
(u)


JN204178.1 Solidago decurrens
70
KP175203.1 Solidago litoralis
LC375709 Bee pollen 27 trnL-trnF
70
KP175201.1 Solidago elongata
KP175202.1 Solidago gigantea
66
KP175158.1 Chrysothamnus viscidiflorus
97
KP175138.1 Acamptopappus shockleyi
KP175165.1 Eastwoodia elegans
KP175208.1 Symphyotrichum lanceolatum
JN543813.1 Aster sampsonii
KF989650.1 Anastraphia pauciflosculosa
0.0050

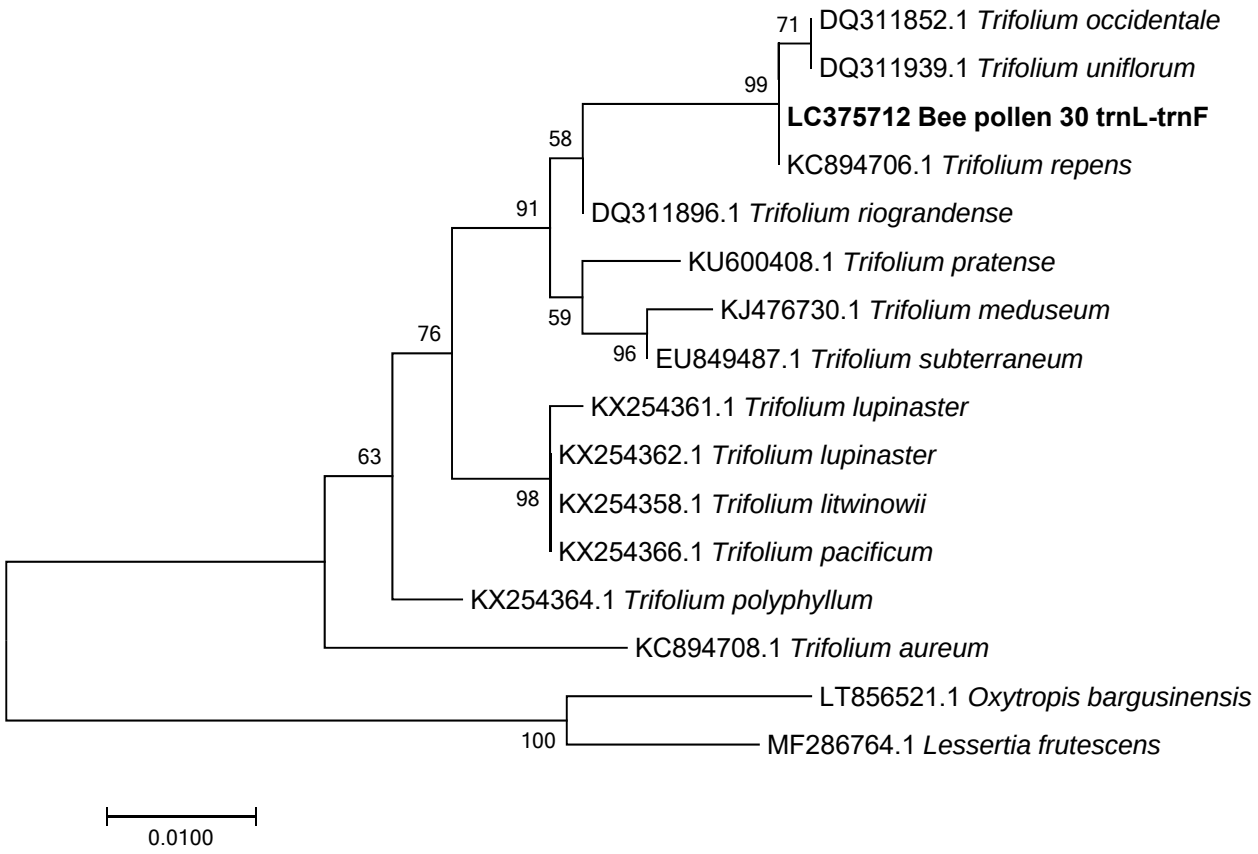
(v)


KT894775.1 Tilia paucicostata
KT894774.1 Tilia oliveri
KT894773.1 Tilia mandshurica
KX062376.1 Tilia miqueliana
86
KX062372.1 Tilia megaphylla
KX062370.1 Tilia amurensis
KX062369.1 Tilia rufa
KX062368.1 Tilia taquetii
100
KX062362.1 Tilia japonica
LC375710 Bee pollen 28 trnL-trnF
AY328158.1 Tilia hupehensis
69
KX062373.1 Tilia koreana
KX062365.1 Tilia kiusiana
AY328160.1 Hainania trichosperma
KM245214.1 Cavanillesia chicamochae
0.0050

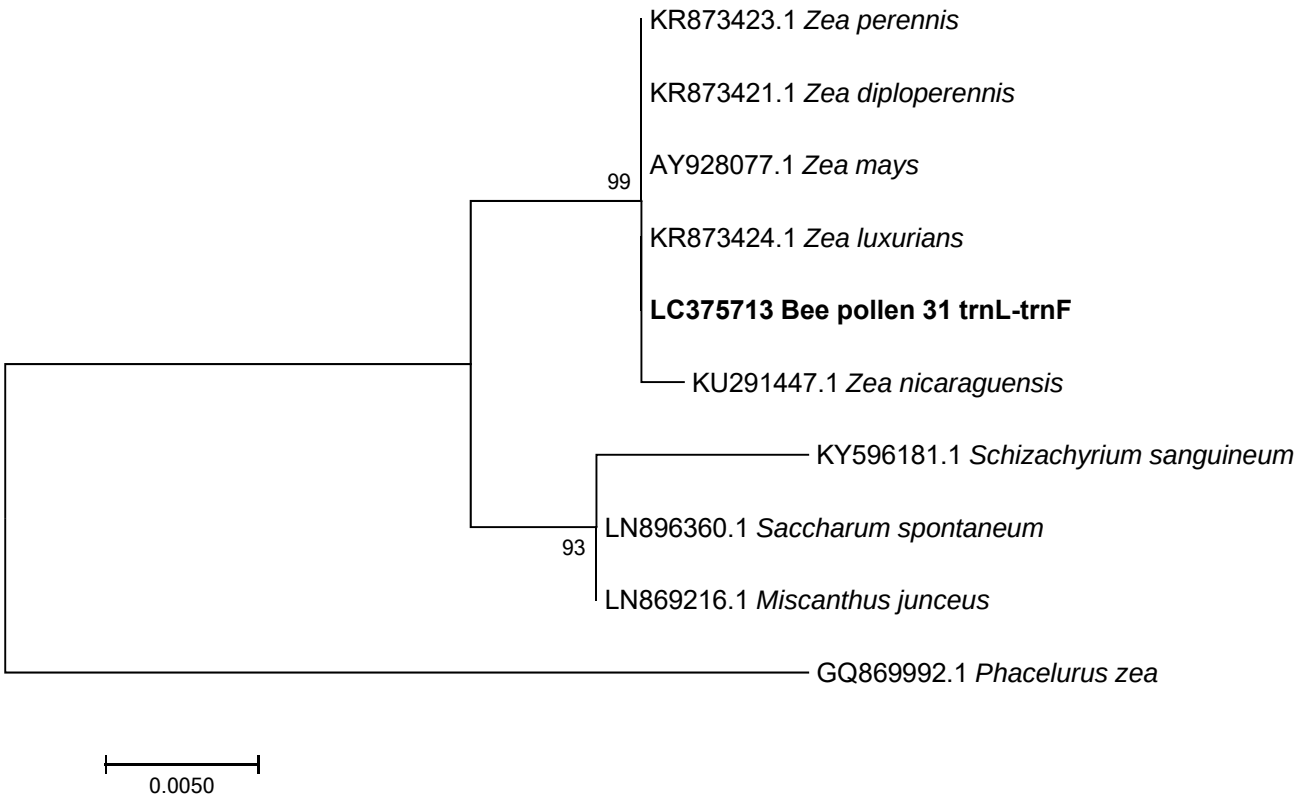
(w)


KU600351.1 Trifolium alpestre
DQ311861.1 Trifolium pannonicum
DQ311943.1 Trifolium velebiticum
56
DQ311804.1 Trifolium heldreichianum
GQ984205.1 Trifolium repens
JQ041859.1 Trifolium pratense
DQ311767.1 Trifolium caudatum
73
LC375711 Bee pollen 29 trnL-trnF
KJ476730.1 Trifolium meduseum
EU849487.1 Trifolium subterraneum
93
DQ311803.1 Trifolium haydenii
DQ311770.1 Trifolium cherleri
KJ788292.1 Trifolium strictum
KX254364.1 Trifolium polyphyllum
KJ806200.1 Lathyrus pubescens
KT582424.1 Chesneya ferganensis
0.0050

(x)


71
DQ311852.1 Trifolium occidentale
DQ311939.1 Trifolium uniflorum
99
LC375712 Bee pollen 30 trnL-trnF
58
KC894706.1 Trifolium repens
91
DQ311896.1 Trifolium riograndense
KU600408.1 Trifolium pratense
59
KJ476730.1 Trifolium meduseum
76
96
EU849487.1 Trifolium subterraneum
KX254361.1 Trifolium lupinaster
63
KX254362.1 Trifolium lupinaster
98
KX254358.1 Trifolium litwinowii
KX254366.1 Trifolium pacificum
KX254364.1 Trifolium polyphyllum
KC894708.1 Trifolium aureum
LT856521.1 Oxytropis bargusinensis
100
MF286764.1 Lessertia frutescens
0.0100

(y)


KR873423.1 Zea perennis
KR873421.1 Zea diploperennis
AY928077.1 Zea mays
99
KR873424.1 Zea luxurians
LC375713 Bee pollen 31 trnL-trnF
KU291447.1 Zea nicaraguensis
KY596181.1 Schizachyrium sanguineum
LN896360.1 Saccharum spontaneum
93
LN869216.1 Miscanthus junceus
GQ869992.1 Phacelurus zea
0.0050