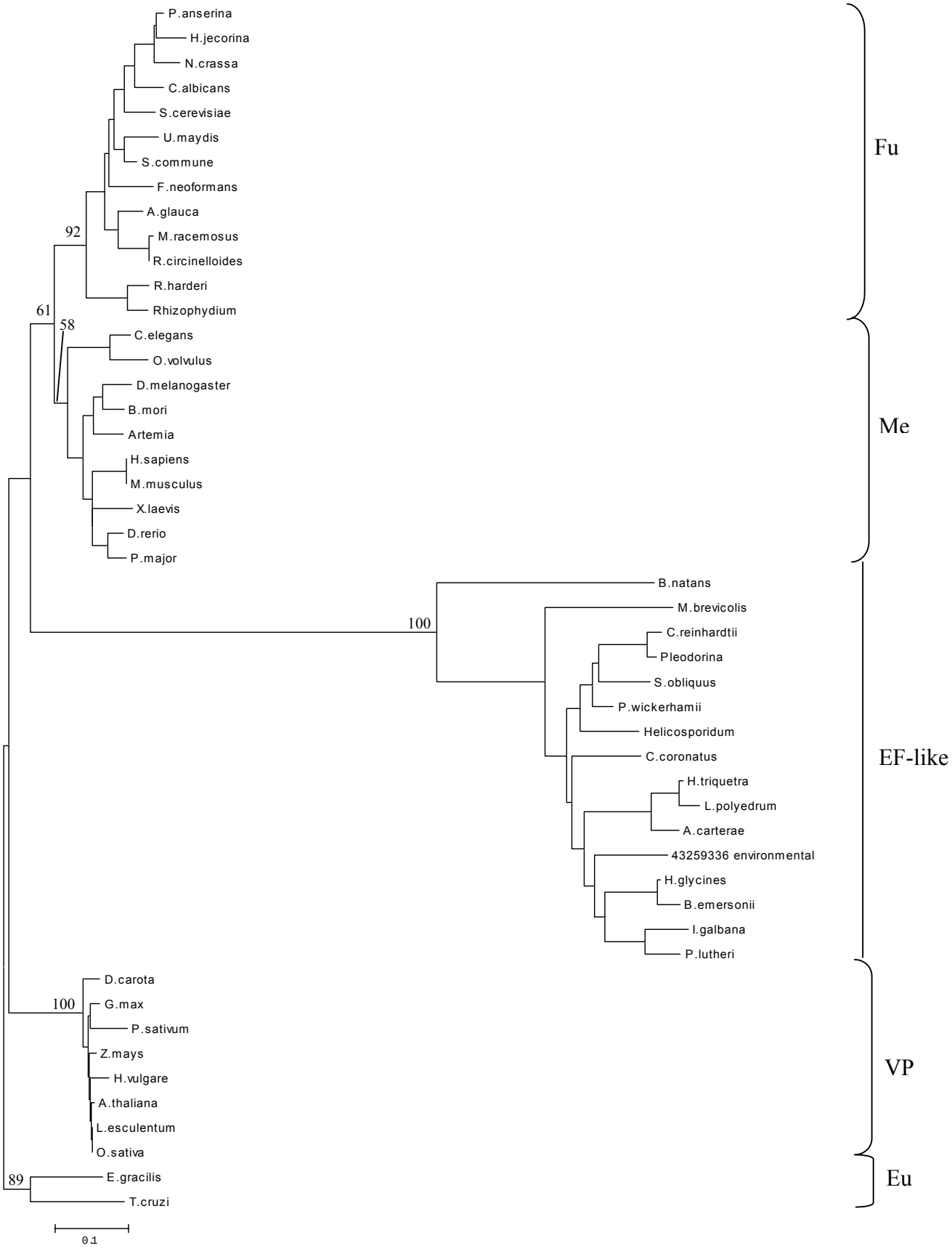
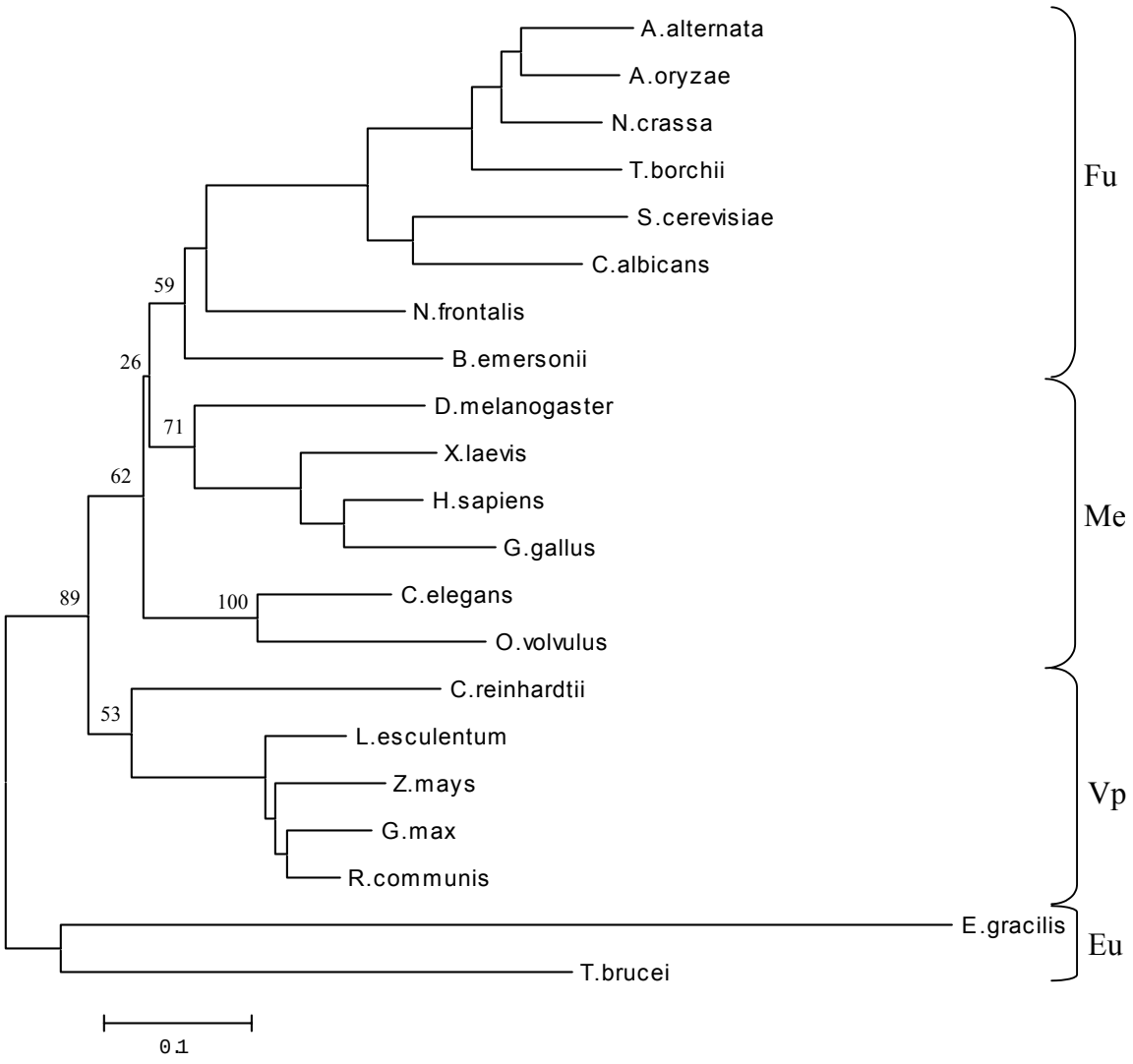
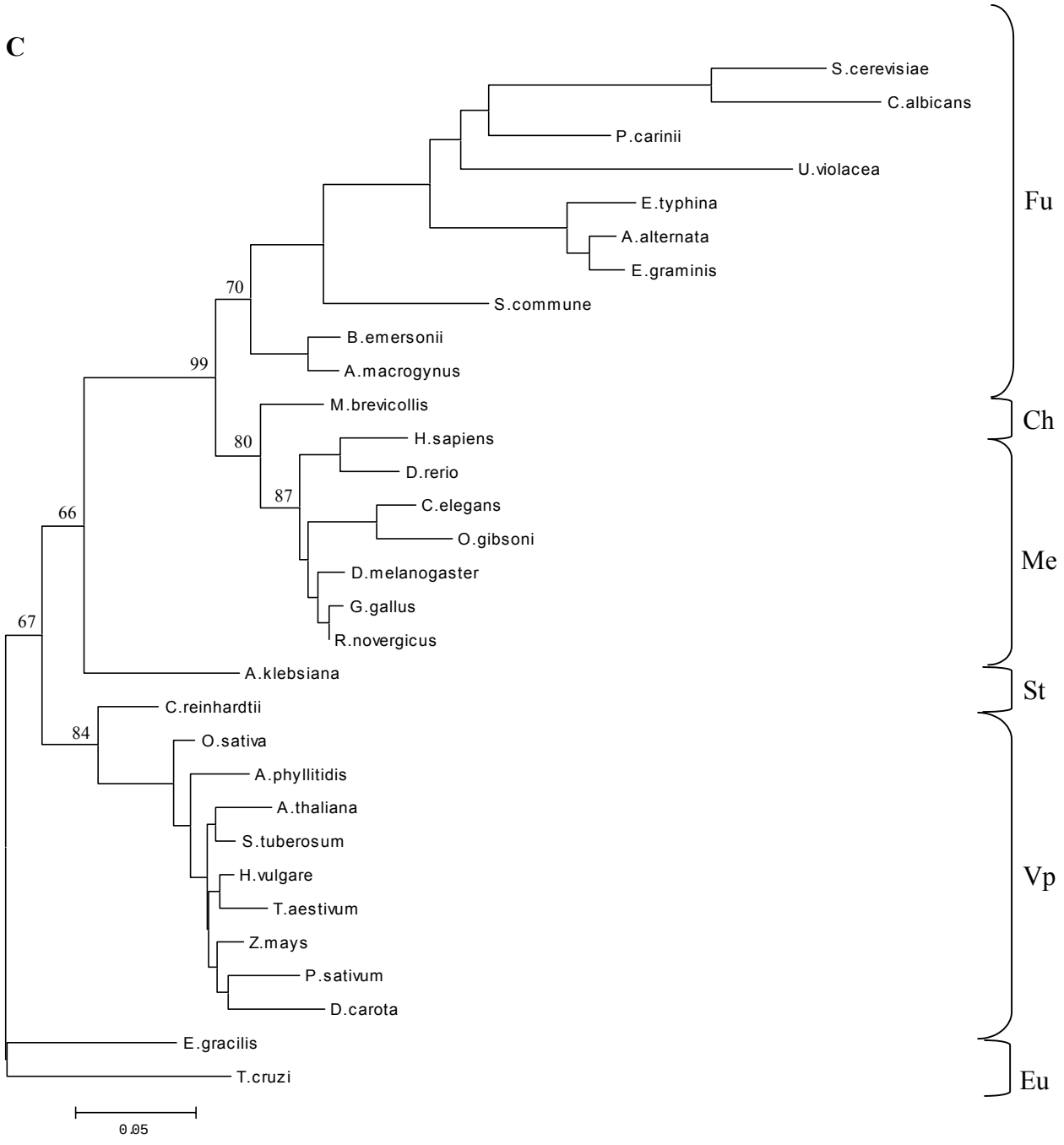
A


P.anserina
H.jecorina
N.crassa
C.albicans
S.cerevisiae
U.maydis
S.commune
F.neoformans
A.glauca
M.racemosus
R.circinelloides
R.harderi
Rhizophydium
C.elegans
O.volvulus
D.melanogaster
B.mori
Artemia
H.sapiens
M.musculus
X.laevis
D.rerio
P.major
B.natans
M.brevicolis
C.reinhardtii
Pleodorina
S.obliquus
P.wickerhamii
Helicosporidum
C.coronatus
H.triquetra
L.polyedrum
A.carterae
43259336 environmental
H.glycines
B.emersonii
I.galbana
P.lutheri
D.carota
G.max
P.sativum
Z.mays
H.vulgare
A.thaliana
L.esculentum
O.sativa
E.gracilis
T.cruzi
92
61
58
100
100
89
0.1
Fu
Me
EF-like
VP
Eu

B


A.alternata
A.oryzae
N.crassa
T.borchii
S.cerevisiae
C.albicans
N.frontalis
B.emersonii
D.melanogaster
X.laevis
H.sapiens
G.gallus
C.elegans
O.volvulus
C.reinhardtii
L.esculentum
Z.mays
G.max
R.communis
E.gracilis
T.brucei
59
26
71
62
89
100
53
Fu
Me
Vp
Eu
0.1


C
S.cerevisiae
C.albicans
P.carinii
U.violacea
E.typhina
A.alternata
E.graminis
S.commune
B.emersonii
A.macrogynus
M.brevicollis
H.sapiens
D.rerio
C.elegans
O.gibsoni
D.melanogaster
G.gallus
R.novergicus
A.klebsiana
C.reinhardtii
O.sativa
A.phyllitidis
A.thaliana
S.tuberosum
H.vulgare
T.aestivum
Z.mays
P.sativum
D.carota
E.gracilis
T.cruzi
70
99
80
87
66
67
84
0.05
Fu
Ch
Me
St
Vp
Eu

Supplementary Figure 2S. Distance (Neighbor-joining) trees for EF-1α (A), enolase (B) and β-tubulin (C) sequences. Main bootstrap proportions are shown at the internodes. The evolutionary distance between two sequences is obtained by summing the lengths of the connecting branches along the horizontal axis, using the scale at the bottom. See (23) for details of EF-like sequences. Vp, Viridiplantae; Me, Metazoa; Fu, Fungi; Ch, Choanoflagellates; Eu, Euglenozoa; St, Stramenopile. See ref. 23 for details about EF-like sequences.

Viridiplantae: C. reinhardtii, *Chlamydomonas reinhardtii* (gi|18142, gi|167455); P. sativum, *Pisum sativum* (gi|1235582, gi|20757); A. thaliana, *Arabidopsis thaliana* (gi|8778823); L. esculentum, *Lycopersicon esculentum* (gi|295810, gi|19280); Z. mays, *Zea mays* (gi|2282584, gi|22272, gi|22180); O. sativa, *Oryza sativa* (gi|2996095, gi|303841); G. max, *Glycine max* (gi|18765, gi|42521308); H. vulgare, *Hordeum vulgare* subsp. *vulgare* (gi|396134; gi|1743276); D. carota, *Daucus carota* (gi|217913, gi|1490664); R. communis, *Ricinus communis* (gi|433608); A. phyllitidis, *Avena phyllitidis* (gi|296497); T. aestivum, *Triticum aestivum* (gi|4098318); S. tuberosum, *Solanum tuberosum* (gi|609267). Metazoa: H. sapiens, *Homo sapiens* (gi|15421129, gi|182113); M. musculus, *Mus musculus* (gi|556300); R. novergicus, *Rattus novergicus* (gi|57428); X. laevis, *Xenopus laevis* (gi|104035, gi|974175); D. rerio. *Dario rerio* (gi|454915; gi:23452397); P. major, *Pagrus major* (gi|37779017); B. mori, *Bombyx mori* (gi|217274); D. melanogaster, *Drosophila melanogaster* (gi|7915, gi:7945); C. elegans, *Caenorhabditis elegans* (gi|7443405, gi|30145811, gi|6891); *Artemia sp.* (gi|1197188); O. volvulus, *Onchocerca volvulus* (gi|119152, gi|32440996); O. gibsoni, *Onchocerca gibsoni* (gi|510353); G. gallus, *Gallus gallus* (gi|488467, gi|974175, gi|212841). Fungi: B. emersonii, *Blastocladiella emersonii* (gi numbers pending); N. crassa, *Neurospora crassa* (gi|961482, gi|28919248); H. jecorina, *Hypocrea jecorina* (gi|312887); P. anserina, *Podospora anserina* (gi|452423); C. albicans, *Candida albicans* (gi|170859, gi|170860, gi|170937); S. cerevisiae, *Saccharomyces cerevisiae* (gi|1230686, gi|171454, gi|3434); S. commune, *Schizophyllum commune* (gi|2897607, gi|4682); U. maydis, *Ustilago maydis* (gi|49068500); F. neoformans, *Filobasidiella neoformans* (gi|2668565); A. glauca, *Absidia glauca* (gi|119141); M. racemosus, *Mucor racemosus* (gi|168380); R. circinelloides, *Rhizomucor circinelloides* f. *lusitanicus* (gi|8771); M. insignis, *Monoblepharis insignis* (gi|19386988); R. harderi, *Rhizophlyctis harderi* (gi|19386992); *Rhizophydium sp.* (gi|19386994); T. borchii, *Tuber borchii* (gi|37147851); A. pullulans, *Aureobasidium pullulans* (gi|643454); N. frontalis, *Neocallimastix frontalis* (gi|515826); P. carinii, *Pneumocystis carinii* (gi|9813) U. violacea, *Ustilago violácea* (gi|17222315); E. typhina, *Epichloe typhina* (gi|2717); A. alternata, *Alternaria alternata* (gi|13242906, gi|3688133); A. oryzae, *Aspergillus oryzae* (gi|1217827); E. graminis, *Erysiphe graminis* subsp. *hordei* (gi|2697); A. macrogynus, *Allomyces macrogynus* (gi|6934200). Choanoflagellates: M. brevicollis, *Monosiga brevicollis* (gi|16554295, gi|16554291). Stramenopiles: A. klebsiana, *Achlya klebsiana* (gi|166301). Euglenozoa: E. gracilis, *Euglena gracilis* (gi|119148, gi|18438, gi|8919599); T. cruzi, *Trypanosoma cruzi* (gi|2133383, gi|1220544); T. brucei, *Trypanosoma brucei brucei* (gi|8132069).