

Supplementary material to:

TOPALIDOU, E., LAGIOTIS, G., MADEISIS, P., 2021: Morphological and molecular identification confirms the occurrence of the rare macromycete *Phaeolepiota aurea* in Greece. – Austrian J. Mycol. 28: 123–130.

Suppl. Tab. 1. Maximum likelihood fitness analysis of *nrLSU* for 24 substitution models. The selected model, having the lowest Bayesian Information Criterion (BIC) score, is highlighted with grey shading. AICc (corrected Akaike Information Criterion), and Maximum Likelihood (*InL*) values are also presented for each model.

Model	BIC	AICc	<i>InL</i>
K2+G	4915.068	4365.016	-2115.341
K2+G+I	4915.114	4356.858	-2110.257
T92+G	4924.963	4366.707	-2115.181
T92+G+I	4924.989	4358.529	-2110.087
TN93+G+I	4926.847	4335.773	-2095.694
TN93+G	4928.643	4345.774	-2101.699
HKY+G+I	4937.113	4354.243	-2105.934
HKY+G	4937.814	4363.149	-2111.392
GTR+G+I	4941.408	4325.723	-2087.652
GTR+G	4943.02	4335.539	-2093.566
K2+I	4998.651	4448.6	-2157.133
TN93+I	5003.938	4421.069	-2139.347
T92+I	5008.464	4450.208	-2156.932
GTR+I	5024.925	4417.444	-2134.518
HKY+I	5025.509	4450.844	-2155.239
JC+G	5040.696	4498.85	-2183.263
JC+G+I	5041.97	4491.919	-2178.792
K2	5058.125	4516.278	-2191.977
TN93	5062.799	4488.134	-2173.884
T92	5067.918	4517.867	-2191.766
HKY	5086.246	4519.785	-2190.715
GTR	5089.926	4490.649	-2172.126
JC+I	5123.314	4581.467	-2224.571
JC	5182.37	4648.729	-2259.207

Suppl. Fig. 1. Multiple sequence alignment of the partial *Phaeolepiota aurea* specimen (query) *nrLSU* sequence with representative reference sequences from GenBank. The GenBank accession number for each reference sequence is shown prior to the species name. Full species names can be found in Tab. 1. Parsimony informative sites are highlighted in black

2 Supplementary

E. TOPALIDOU & al. 2021: *Phaeolepiota aurea* in Greece

	410	420	430	440	450	460	470	480	490	500
<i>P. aurea</i> (Query)	G	T	A	C	T	C	G	T	G	A
<i>MH76401</i> <i>P. aurea</i>	G	T	A	C	T	C	G	T	G	A
<i>QD071704</i> <i>P. aurea</i>	G	T	A	C	T	C	G	T	G	A
<i>AMP46443</i> <i>C. superbum</i>	G	T	A	C	T	C	G	T	G	A
<i>AMP46442</i> <i>C. superbum</i>	G	T	A	C	T	C	G	T	G	A
<i>MH282621</i> <i>G. riceviana</i>	G	T	A	C	T	C	G	T	G	A
<i>GTACTTTC</i>	G	G	T	A	C	T	G	T	G	A
<i>AY207240</i> <i>P. gunnii</i>	G	T	A	C	T	C	G	T	G	A
<i>MH82283</i> <i>G. vitifolius</i>	G	T	A	C	T	C	G	T	G	A
<i>KP106540</i> <i>G. pseudocamerina</i>	G	T	A	C	T	C	G	T	G	A
<i>MWS80546</i> <i>H. crustuliniforme</i>	G	T	A	C	T	C	G	T	G	A
<i>KT519156</i> <i>H. colletorum</i>	G	T	A	C	T	C	G	T	G	A
<i>FJ436324</i> <i>H. affine</i>	G	T	A	C	T	C	G	T	G	A
<i>MK280559</i> <i>H. velutina</i>	G	T	A	C	T	C	G	T	G	A
<i>MK278132</i> <i>H. velutina</i>	G	T	A	C	T	C	G	T	G	A
<i>MK278133</i> <i>H. flaccidum</i>	G	T	A	C	T	C	G	T	G	A
<i>JN393963</i> <i>H. elongatum</i>	G	T	A	C	T	C	G	T	G	A
<i>JN393963</i> <i>H. elongatum</i>	G	T	A	C	T	C	G	T	G	A
<i>JN393964</i> <i>H. lateritium</i>	G	T	A	C	T	C	G	T	G	A
<i>JN393959</i> <i>H. minus</i>	G	T	A	C	T	C	G	T	G	A
<i>JN393952</i> <i>H. alpinum</i>	G	T	A	C	T	C	G	T	G	A
<i>AF88755</i> <i>C. teraturus</i>	G	T	A	C	T	C	G	T	G	A
<i>MK277834</i> <i>C. prometheus</i>	G	T	A	C	T	C	G	T	G	A
<i>KT75178</i> <i>C. crassipes</i>	G	T	A	C	T	C	G	T	G	A
<i>MH108353</i> <i>C. laqueus</i>	G	T	A	C	T	C	G	T	G	A
<i>MW263587</i> <i>C. viscostrutus</i>	G	T	A	C	T	C	G	T	G	A
<i>KT75183</i> <i>C. orixanthus</i>	G	T	A	C	T	C	G	T	G	A
<i>MN492672</i> <i>C. diaphorus</i>	G	T	A	C	T	C	G	T	G	A
<i>MK358006</i> <i>C. rhysina</i>	G	T	A	C	T	C	G	T	G	A
<i>NG664342</i> <i>C. gynocephalus</i>	G	T	A	C	T	C	G	T	G	A
<i>MF489798</i> <i>C. rufinervis</i>	G	T	A	C	T	C	G	T	G	A
<i>MH108406</i> <i>C. armiae</i>	G	T	A	C	T	C	G	T	G	A
<i>KP75188</i> <i>C. mycenaceum</i>	G	T	A	C	T	C	G	T	G	A
<i>QD071704</i> <i>R. paludicola</i>	G	T	A	C	T	C	G	T	G	A

	510	520	530	540	550	560	570	580	590	600
<i>P. aurea</i> (Query)	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MTH674409</i> - <i>P. aurea</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>Diplocarpon</i> <i>P. aurea</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>AM464415</i> <i>C. superbum</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>AM464416</i> <i>C. superbum</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MHR32261</i> <i>G. trispora</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MHR32269</i> <i>G. zeae</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>AY207240</i> <i>G. pumila</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MHS28238</i> <i>G. stictiformis</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>KP105450</i> <i>G. pseudocamerina</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MHS88546</i> <i>H. crustuliniforme</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>TKS1960</i> <i>H. colletorum</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>JF436324</i> <i>H. affine</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MK88055</i> <i>H. velutipes</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MKT78132</i> <i>H. flaccidum</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MKT78132</i> <i>H. velutines</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>JN893973</i> <i>H. eburneum</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>JN893968</i> <i>H. pusillum</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>JN893964</i> <i>H. luteum</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>JN893959</i> <i>H. minium</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>JN893952</i> <i>H. alpinum</i>	ACGGT	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>AE388934</i> <i>H. erutans</i>	ATG	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>ME27784</i> <i>C. promelatus</i>	ATG	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>TKS1717</i> <i>C. cinnamomeus</i>	ATG	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MH103535</i> <i>C. longicollis</i>	ATG	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MW263587</i> <i>C. viscostrigatus</i>	ATG	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>TKS7185</i> <i>C. oryzae</i>	ATG	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MKS3526</i> <i>C. diaphorae</i>	ATG	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MKS3526</i> <i>C. chrysma</i>	ATG	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>NG64342</i> <i>C. gynnocephalus</i>	ATG	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MTH79189</i> <i>C. rufus</i>	ATG	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MH108409</i> <i>C. armiae</i>	ATG	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>MTH79188</i> <i>C. mycenaceum</i>	ATG	TGGGAT	TGAGGA	AACTCAGCA	GCCCG	-	AAGCCGGGG	T	TT	ACCA
<i>KP149091</i> <i>R. paludosa</i>	AGG	TGGGAT	TGAGGA	AACTCAGCA	GCGC	T	AAGCCGGGG	T	TT	ACCA

	610	620	630	640	650	660	670	680	690	700
<i>P. aurea</i> (<i>Query</i>)										
MBT86401 <i>P. aurea</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
DU07701 <i>P. aurea</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
AM94442 <i>C. superbum</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
AM94442 <i>C. superbum</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
MBT82621 <i>G. tricospa</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
<i>G. vexans</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
1120720 <i>G. pectinata</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
MBT82320 <i>G. coniformis</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
EP106540 <i>G. pseudosamerina</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
MRB88546 <i>H. crustuliniforme</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
KF59160 <i>H. colletorum</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
EF436324 <i>H. effusum</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
MK88059 <i>H. velutipes</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
MK27183 <i>H. velutatus</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
MK27183 <i>H. velutatum</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
MK78123 <i>H. flaccidum</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
JN39973 <i>H. eburneum</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
JN39989 <i>H. pusillum</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
JN39964 <i>H. lutescens</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
JN39959 <i>H. minium</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
JN39952 <i>H. alpinum</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
AF388753 <i>C. teraturatus</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
MK27783 <i>C. prometheus</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
KF75718 <i>C. crameusius</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
MT010355 <i>C. laqueus</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
MT010355 <i>C. laqueus</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
KF75185 <i>C. discoloratus</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
MR9267 <i>C. discoloratus</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
MK35806 <i>C. clypeatus</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
ME06434 <i>C. gymnocephalus</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
MH108798 <i>C. rufus</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
MH108409 <i>C. armata</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
KF75188 <i>C. myrsinaceum</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			
AP149981 <i>R. pulidosa</i>	CTTGAAACACGGGACAAGAGTC	TAACATGCGCTGGAGTGT	TGGGTGGAAAAC	CCGGCGCG	AATGAAGTGAAGAAT	TGAGATCCTCTGC	GGGGAG			