

Volkov et al.: 5S and 45S ribosomal DNA of *Atropa*

CTTGGGTTTTTTTTTTTTTAAGCATATATAAGGGGGGTAGAGGTGTTGAAGGCACTTCAGG Majority
 -----+-----+-----+-----+-----+-----+
 10 20 30 40 50 60
 -----+-----+-----+-----+-----+-----+
 Ab-IGS-1S
 Ab-ETS-4
 Ab-ETS-5
 T Ab-ETS-6
 Ab-ETS-7
 Ab-ETS-8
 Ab-ETS-9
 Ab-ETS-10
 A Ab-ETS-11
 C Ab-ETS-12
 - Ab-ETS-14
 G Ab-ETS-15
 - - Ab-ETS-16
 Ab-ETS-18
 Ab-ETS-19
 Ab-ETS-21

GCGACTGTCGCCGTTTCGAGGCCAGCGCCC-AGTGGGGCATGTGGGCGTGTAGTAGGGGCA Majority
 -----+-----+-----+-----+-----+-----+
 70 80 90 100 110 120
 -----+-----+-----+-----+-----+-----+
 Ab-IGS-1S
 Ab-ETS-4
 Ab-ETS-5
 Ab-ETS-6
 Ab-ETS-7
 Ab-ETS-8
 Ab-ETS-9
 Ab-ETS-10
 C Ab-ETS-11
 C Ab-ETS-12
 Ab-ETS-14
 Ab-ETS-15
 Ab-ETS-16
 Ab-ETS-18
 Ab-ETS-19
 Ab-ETS-21

CACTCGTGGCATGCATGGCCTCGTCCAAGCTACGCTAAGGGTGTCAACCGAAAAACGCCG Majority
 -----+-----+-----+-----+-----+-----+
 130 140 150 160 170 180
 -----+-----+-----+-----+-----+-----+
 T Ab-IGS-1S
 Ab-ETS-4
 Ab-ETS-5
 Ab-ETS-6
 Ab-ETS-7
 Ab-ETS-8
 T Ab-ETS-9
 Ab-ETS-10
 Ab-ETS-11
 Ab-ETS-12
 Ab-ETS-14
 Ab-ETS-15
 Ab-ETS-16
 Ab-ETS-18
 Ab-ETS-19
 Ab-ETS-21

Volkov et al.: 5S and 45S ribosomal DNA of *Atropa*

```

ACGACGTCTCGCTGAGCGCCGGTAGTAGGGCGGGCGGCATCGCTCGGGGCGGGCTGA Majority
-----+-----+-----+-----+-----+-----+
          190         200         210         220         230         240
-----+-----+-----+-----+-----+
..... Ab-IGS-1S
..... Ab-ETS-4
..... Ab-ETS-5
..... Ab-ETS-6
..... Ab-ETS-7
..... Ab-ETS-8
..... Ab-ETS-9
..... Ab-ETS-10
..... Ab-ETS-11
..... Ab-ETS-12
..... Ab-ETS-14
..... Ab-ETS-15
..... Ab-ETS-16
..... Ab-ETS-18
..... Ab-ETS-19
..... Ab-ETS-21

```

```

CGGCTACGGACGGGACAAGGCGGTGCTTTTCGTGTCGTGCGGTGAGTTCTAGACGCTTTTG Majority
-----+-----+-----+-----+-----+
          250         260         270         280         290         300
-----+-----+-----+-----+-----+
..... Ab-IGS-1S
..... Ab-ETS-4
..... Ab-ETS-5
..... Ab-ETS-6
..... Ab-ETS-7
..... Ab-ETS-8
..... Ab-ETS-9
..... Ab-ETS-10
..... Ab-ETS-11
..... Ab-ETS-12
..... Ab-ETS-14
..... Ab-ETS-15
..... Ab-ETS-16
..... Ab-ETS-18
..... Ab-ETS-19
..... Ab-ETS-21

```

```

TCTCTTGGCAAGCTCTAGGCGCCGGACGTACGGGGCTGAGCCGACGACCCGTCCGTCGCC Majority
-----+-----+-----+-----+-----+
          310         320         330         340         350         360
-----+-----+-----+-----+-----+
..... Ab-IGS-1S
..... Ab-ETS-4
..... Ab-ETS-5
..... Ab-ETS-6
..... Ab-ETS-7
..... Ab-ETS-8
..... Ab-ETS-9
..... Ab-ETS-10
..... Ab-ETS-11
..... Ab-ETS-12
..... Ab-ETS-14
..... Ab-ETS-15
..... Ab-ETS-16
..... Ab-ETS-18
..... Ab-ETS-19
..... Ab-ETS-21

```

Volkov et al.: 5S and 45S ribosomal DNA of *Atropa*

```

GAACGTCCGCTGCGGGCGGTGTCGCCGTGCAGGCAGGCAGCTTGTCTGGCTTCATCACC Majority
-----+-----+-----+-----+-----+-----+
          370          380          390          400          410          420
-----+-----+-----+-----+-----+
..... Ab-IGS-1S
..... Ab-ETS-4
..... Ab-ETS-5
..... Ab-ETS-6
..... Ab-ETS-7
..... Ab-ETS-8
..... Ab-ETS-9
..... T . . . A . C . . . . . Ab-ETS-10
..... Ab-ETS-11
..... Ab-ETS-12
..... Ab-ETS-14
..... Ab-ETS-15
..... Ab-ETS-16
..... . . . . . A . . . . . Ab-ETS-18
..... Ab-ETS-19
..... . . . . . A . . . . . Ab-ETS-21

```

```

TCTACCTCCCCGGGGGGCGGGGGGATTATCGTGTCTAGCGGGACTTGCTCCGGACTCGC Majority
-----+-----+-----+-----+-----+-----+
          430          440          450          460          470          480
-----+-----+-----+-----+-----+
..... Ab-IGS-1S
..... Ab-ETS-4
..... Ab-ETS-5
..... Ab-ETS-6
..... Ab-ETS-7
..... Ab-ETS-8
..... Ab-ETS-9
..... A . . . G . . . . . C . . . . . Ab-ETS-10
..... Ab-ETS-11
..... Ab-ETS-12
..... Ab-ETS-14
..... Ab-ETS-15
..... Ab-ETS-16
..... Ab-ETS-18
..... Ab-ETS-19
..... Ab-ETS-21

```

```

AACGTCGGCATCGGAAGCGGCGCTCGGCATATAATGCCGGCGTCGGGGCCGTTGTTTG Majority
-----+-----+-----+-----+-----+-----+
          490          500          510          520          530          540
-----+-----+-----+-----+-----+
..... Ab-IGS-1S
..... Ab-ETS-4
..... Ab-ETS-5
..... Ab-ETS-6
..... Ab-ETS-7
..... Ab-ETS-8
..... . . . . . C . . . . . Ab-ETS-9
..... . . . . . C . . . . . Ab-ETS-10
..... Ab-ETS-11
..... Ab-ETS-12
..... Ab-ETS-14
..... Ab-ETS-15
..... Ab-ETS-16
..... Ab-ETS-18
..... Ab-ETS-19
..... Ab-ETS-21

```

Volkov et al.: 5S and 45S ribosomal DNA of *Atropa*

CACGCGACGACGAAGCATTGGACGCACGGCGGTGAGTGGTGTCTGGGCGTGTGCGGTTA Majority

-----+-----+-----+-----+-----+-----+
 550 560 570 580 590 600
-----+-----+-----+-----+-----+-----+

..... Ab-IGS-1S
..... Ab-ETS-4
..... Ab-ETS-5
..... Ab-ETS-6
..... Ab-ETS-7
..... Ab-ETS-8
.G..... Ab-ETS-9
.G..... Ab-ETS-10
..... Ab-ETS-11
..... Ab-ETS-12
..... Ab-ETS-14
.....G..... Ab-ETS-15
..... Ab-ETS-16
..... Ab-ETS-18
..... Ab-ETS-19
..... Ab-ETS-21

GGTTGGATCCCTGCTCGAGCAGCGACCTCTTAGCCCGCACGCAGGGTCAGTCGGGGGACA Majority

-----+-----+-----+-----+-----+-----+
 610 620 630 640 650 660
-----+-----+-----+-----+-----+-----+

..... Ab-IGS-1S
..... Ab-ETS-4
..... Ab-ETS-5
..... Ab-ETS-6
..... Ab-ETS-7
..... Ab-ETS-8
..... Ab-ETS-9
..... Ab-ETS-10
..... Ab-ETS-11
..... Ab-ETS-12
..... Ab-ETS-14
..... Ab-ETS-15
..... Ab-ETS-16
..... Ab-ETS-18
.....C..... Ab-ETS-19
..... Ab-ETS-21

AGCGCCGCAAGGGCTTGCCCGAAGTCGGTTTCCAGTGTGCATACCTAATGCCCGGCAT Majority

-----+-----+-----+-----+-----+-----+
 670 680 690 700 710 720
-----+-----+-----+-----+-----+-----+

..... Ab-IGS-1S
..... Ab-ETS-4
..... Ab-ETS-5
..... Ab-ETS-6
..... Ab-ETS-7
..... Ab-ETS-8
..... Ab-ETS-9
..... Ab-ETS-10
..... Ab-ETS-11
..... Ab-ETS-12
..... Ab-ETS-14
..... Ab-ETS-15
..... Ab-ETS-16
..... Ab-ETS-18
..... Ab-ETS-19
..... Ab-ETS-21

Volkov et al.: 5S and 45S ribosomal DNA of *Atropa*

TATCACGTACGATCGGTTCGCCTTTTCGCCCGTCGCATCCAGCGTGCGGGCCGAACCACAAG Majority

```

-----+-----+-----+-----+-----+-----+
      730      740      750      760      770      780
-----+-----+-----+-----+-----+
..... Ab-IGS-1S
..... Ab-ETS-4
..... Ab-ETS-5
..... Ab-ETS-6
..... Ab-ETS-7
..... Ab-ETS-8
..... C..... Ab-ETS-9
..... Ab-ETS-10
..... Ab-ETS-11
..... Ab-ETS-12
..... Ab-ETS-14
..... Ab-ETS-15
..... Ab-ETS-16
..... Ab-ETS-18
..... Ab-ETS-19
..... Ab-ETS-21

```

CCGCTCCCGCGACCCACTCCTTCCCTCGCCTCGCCGCGCGATGGGGTGGTCCCGCGGAGGG Majority

```

-----+-----+-----+-----+-----+-----+
      790      800      810      820      830      840
-----+-----+-----+-----+-----+
..... Ab-IGS-1S
..... Ab-ETS-4
..... Ab-ETS-5
..... Ab-ETS-6
..... G..... Ab-ETS-7
..... Ab-ETS-8
..... T.....T.....T..... Ab-ETS-9
..... Ab-ETS-10
..... Ab-ETS-11
..... Ab-ETS-12
..... Ab-ETS-14
..... Ab-ETS-15
..... Ab-ETS-16
..... Ab-ETS-18
..... Ab-ETS-19
..... Ab-ETS-21

```

CGGTTCGGACTCTCGGATTCGGTAAACGCAGCGGGCACGGGGCATTCCCCCATCTGCCCT Majority

```

-----+-----+-----+-----+-----+-----+
      850      860      870      880      890      900
-----+-----+-----+-----+-----+
..... Ab-IGS-1S
..... Ab-ETS-4
..... Ab-ETS-5
..... Ab-ETS-6
..... Ab-ETS-7
..... Ab-ETS-8
..... A.....C.....G Ab-ETS-9
..... Ab-ETS-10
..... Ab-ETS-11
..... A..... Ab-ETS-12
..... Ab-ETS-14
..... Ab-ETS-15
..... Ab-ETS-16
..... Ab-ETS-18
..... Ab-ETS-19
..... Ab-ETS-21

```

Volkov et al.: 5S and 45S ribosomal DNA of *Atropa*

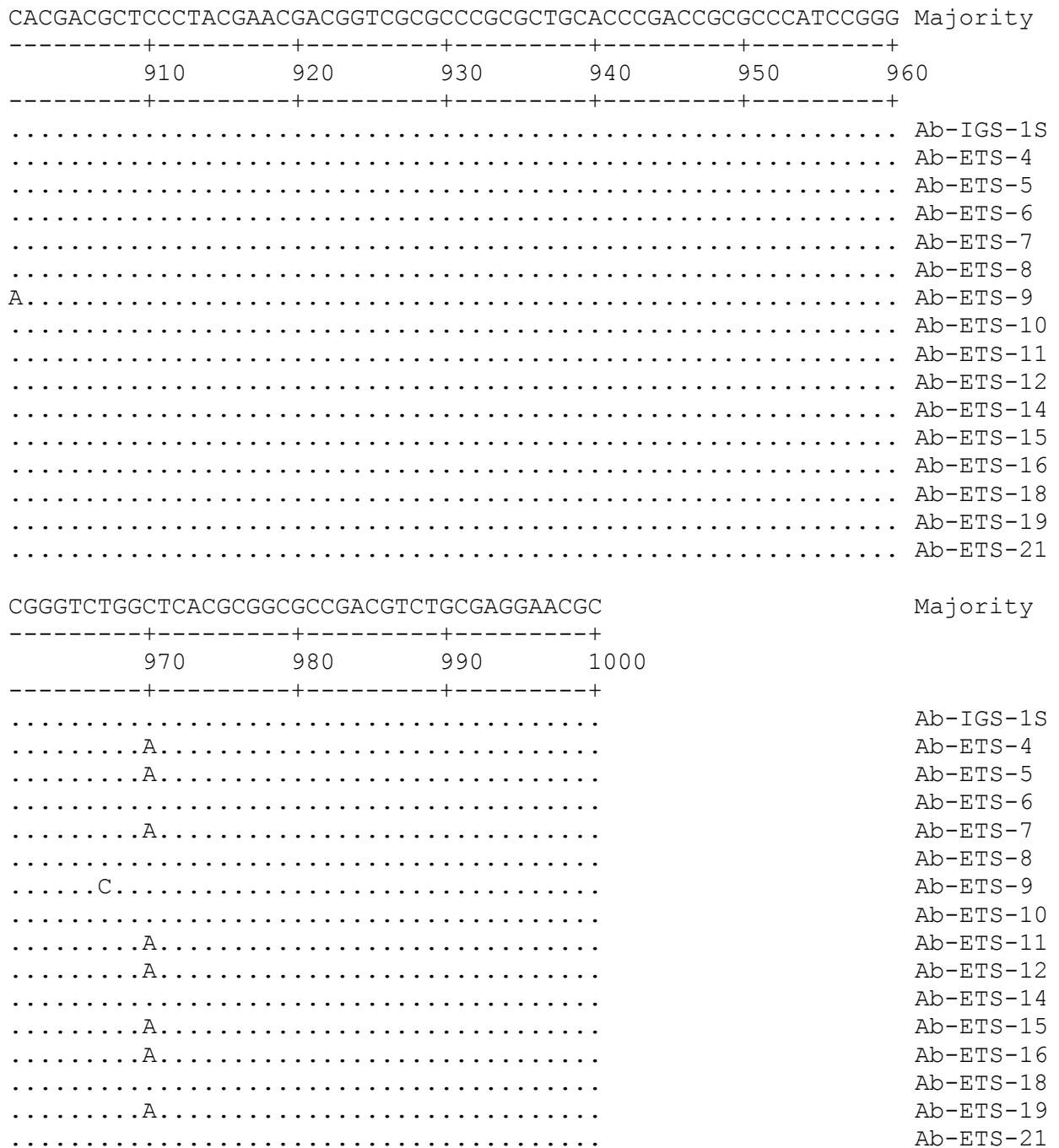


Figure S6. Nucleotide sequence comparison of individual copies of 5'ETS region of *Atropa belladonna* 45S rDNA. Sequence of presumptive TIS is presented in bold underlined.