

Table 4S. Nucleotide content of 25 mitogenome sequences of PCGs among Pleuronectidae

Species	Mean frequencies of nucleotides (%) combined for the three codon positions				
	T	C	A	G	Length of sequence (bp)
Not aligned PCG sequences					
<i>Cleisthenes Herzensteini</i> KT223828	28.5	30.0	24.6	16.9	11457
<i>Hippoglossoides platessoides</i> MN122825	29.0	29.5	23.9	17.5	11445
<i>Hippoglossus hippoglossus</i> AM749122	28.6	29.7	24.7	17.0	11444
<i>Hippoglossus hippoglossus</i> AM749123	28.6	29.7	24.7	17.0	11443
<i>Hippoglossus hippoglossus</i> AM749124	28.6	29.8	24.7	17.0	11443
<i>Hippoglossus stenolepis</i> AM749126	28.7	29.6	24.9	16.8	11443
<i>Hippoglossus stenolepis</i> AM749127	28.7	29.6	24.9	16.8	11443
<i>Hippoglossus stenolepis</i> AM749128	28.7	29.6	24.9	16.8	11443
<i>Hippoglossus stenolepis</i> AM749129	28.7	29.6	24.9	16.8	11443
<i>Limanda aspera</i> KP013094	29.0	29.5	24.2	17.4	11445
<i>Limanda limanda</i> MN122886	29.2	29.3	24.0	17.5	11445
<i>Platichthys stellatus</i> PS2011	28.5	30.0	24.0	17.5	11436
<i>Pleuronichthys cornutus</i> JQ639071	29.9	29.0	25.0	16.1	11484
<i>Pleuronichthys japonicus</i> KY038655	30.4	28.6	24.8	16.3	11474

<i>Pseudopleuronectes herzensteini</i> MW713061	28.4	30.1	24.1	17.4	11438
<i>Pseudopleuronectes yokohamae</i> KT224485	28.6	29.7	24.5	17.1	11437
<i>Pseudopleuronectes yokohamae</i> KT878309	28.6	29.8	24.5	17.1	11436
<i>Reinhardtius hippoglossoides</i> AM749130	29.0	29.4	24.9	16.7	11443
<i>Reinhardtius hippoglossoides</i> AM749131	29.1	29.3	24.9	16.7	11443
<i>Reinhardtius hippoglossoides</i> AM749132	29.1	29.3	24.9	16.7	11443
<i>Reinhardtius hippoglossoides</i> AM749133	29.1	29.3	24.8	16.7	11443
<i>Verasper moseri</i> EF025506	29.1	29.4	24.9	16.5	11434
<i>Verasper moseri</i> LC583747	29.1	29.5	24.9	16.5	11434
<i>Verasper variegatus</i> DQ403797	29.3	29.5	24.8	16.4	11434
<i>Verasper variegatus</i> MK210571	29.3	29.5	24.8	16.4	11434
Average, n=25	<u>28.9±0.08</u>	<u>29.5±0.08</u>	<u>24.6±0.08</u>	<u>16.9±0.08</u>	11444
Aligned PCG sequences					
<i>Cleisthenes herzensteini</i> KT223828	28.6	30.0	24.6	16.8	11401
<i>Hippoglossoides platessoides</i> MN122825	29.1	29.6	23.9	17.5	11401
<i>Hippoglossus hippoglossus</i> AM749122	28.6	29.8	24.6	17.0	11401
<i>Hippoglossus hippoglossus</i> AM749123	28.6	29.8	24.6	17.0	11401

<i>Hippoglossus hippoglossus</i> AM749124	28.6	29.8	24.6	17.0	11401
<i>Hippoglossus stenolepis</i> AM749126	28.7	29.6	24.9	16.8	11401
<i>Hippoglossus stenolepis</i> AM749127	28.7	29.6	24.9	16.8	11401
<i>Hippoglossus stenolepis</i> AM749128	28.7	29.6	24.9	16.8	11401
<i>Hippoglossus stenolepis</i> AM749129	28.7	29.6	24.9	16.8	11401
<i>Limanda aspera</i> KP013094	29.1	29.5	24.1	17.3	11401
<i>Limanda limanda</i> MN122886	29.2	29.3	24.0	17.5	11401
<i>Platichthys stellatus</i> Ps2011	28.5	30.0	23.9	17.5	11401
<i>Pleuronichthys cornutus</i> JQ639071	30.0	29.1	24.9	16.1	11400
<i>Pleuronichthys japonicus</i> KY038655	30.4	28.6	24.8	16.2	11401
<i>Pseudopleuronectes herzensteini</i> MW713061	28.4	30.2	24.0	17.4	11401
<i>Pseudopleuronectes yokohamae</i> KT224485	28.7	29.8	24.5	17.1	11401
<i>Pseudopleuronectes yokohamae</i> KT878309	28.7	29.8	24.5	17.1	11401
<i>Reinhardtius hippoglossoides</i> AM749130	29.1	29.4	24.8	16.7	11401
<i>Reinhardtius hippoglossoides</i> AM749131	29.1	29.4	24.8	16.7	11401
<i>Reinhardtius hippoglossoides</i> AM749132	29.1	29.4	24.8	16.7	11401
<i>Reinhardtius hippoglossoides</i> AM749133	29.1	29.4	24.8	16.7	11401
<i>Verasper moseri</i> EF025506	29.2	29.4	24.9	16.5	11401
<i>Verasper moseri</i> LC583747	29.2	29.5	24.8	16.5	11401

<i>Verasper variegatus</i> DQ403797	29.3	29.5	24.8	16.4	11401
<i>Verasper variegatus</i> MK210571	29.3	29.5	24.8	16.4	11401
Average, n=25	<u>29.0±0.08</u>	<u>29.6±0.08</u>	<u>24.6±0.08</u>	<u>16.8±0.08</u>	11401

Note. Standard errors for average frequencies and heterogeneity of nucleotide content among four nucleotide types (T, C, A, G) are estimated by ANOVA/MANOVA testing of two subsets as given in the table for unaligned and aligned sequences. Heterogeneity of nucleotide frequencies between four types of nucleotides is statistically significant in each of 2 data subsets. Wilk's Lambda=0.0054, F=801, d.f.=6;380, $P<00001$. Average frequencies between 4 types of nucleotides for two subsets do not differ: Wilk's Lambda=0.9981, F=0, d.f.=6;380, $P<0.9992$.