

The complete mitochondrial genome of the fivespot flounder, *Pseudorhombus pentophthalmus* (Pleuronectiformes: Paralichthyidae) from Korea and its phylogenetic analysis

Yong-Suk Lee ^{1,2}, Maheshkumar Prakash Patil ¹, Jong-Oh Kim ^{2,3}, Yu-Jin Lee ⁴, Yong Bae Seo ⁵, Jin-Koo Kim ⁴, Rahul K. Suryawanshi ⁶ and Gun-Do Kim ^{2,3*}

¹ Industry-University Cooperation Foundation, Pukyong National University, 45 Yongso-ro, Nam-Gu, Busan 48513, Republic of Korea

² Department of Microbiology, Pukyong National University, 45 Yongso-ro, Nam-Gu, Busan 48513, Republic of Korea

³ School of Marine and Fisheries Life Science, Pukyong National University, 45 Yongso-ro, Nam-Gu, Busan 48513, Republic of Korea

⁴ Department of Marine Biology, Pukyong National University, 45 Yongso-ro, Nam-Gu, Busan 48513, Republic of Korea

⁵ Research Institute for Basic Science, Pukyong National University, 45 Yongso-ro, Nam-Gu, Busan 48513, Republic of Korea

⁶ Gladstone Institute, San Francisco, CA, USA

* Correspondence: gundokim@pknu.ac.kr; Tel.: +82-51-629-5618

Supplementary Materials:

Table S1. General metrics of nucleotide composition of *P. pentophthalmus*.

	Size (bp)	T%	C%	A%	G%	A+T%	AT- skew	GC- skew
<i>Pseudorhombus pentophthalmus</i>	16,684	26.2	29.3	26.6	18.0	52.8	0.0076	-0.2389
<i>Pseudorhombus dupliciocellatus</i>	16,621	25.3	31.0	26.9	16.8	52.2	0.0307	-0.2971
<i>Pseudorhombus levisquamis</i>	16,604	26.1	29.9	27.0	17.1	53.1	0.0169	-0.2723
<i>Pseudorhombus cinnamoneus</i>	16,599	26.3	29.5	27.0	17.2	53.3	0.0131	-0.2634
<i>Palichthys olivaceus</i>	17,090	26.1	29.6	27.4	16.8	53.5	0.0243	-0.2759
<i>Palichthys adspersus</i>	17,060	25.9	29.5	27.5	17.1	53.4	0.0300	-0.2661
<i>Palichthys californicus</i>	16,858	26.0	29.5	27.5	17.0	53.5	0.0280	-0.2688
<i>Palichthys dentatus</i>	17,033	27.0	28.0	28.2	16.7	55.2	0.0217	-0.2528
<i>Palichthys lethostigma</i>	16,843	26.4	28.9	28.1	16.8	54.5	0.0312	-0.2703

Table S2. Codon and relative synonymous codon usage (RSCU) of 12 protein-coding genes (PCGs) in the mitogenome of *P. pentophthalmus*.

Amino acid	Codon	Count (RSCU)	Amino acid	Codon	Count (RSCU)
Phe	TTT	96.0 (0.87)	Ala	GCT	55.0 (0.71)
	TTC	125.0 (1.13)		GCC	148.0 (1.90)
Leu	TTA	69.0 (0.68)		GCA	89.0 (1.14)
	TTG	32.0 (0.32)		GCG	19.0 (0.24)
	CTT	140.0 (1.38)	Tyr	TAT	27.0 (0.52)
	CTC	145.0 (1.43)		TAC	76.0 (1.48)
	CTA	137.0 (1.35)	His	CAT	25.0 (0.47)
	CTG	84.0 (0.83)		CAC	81.0 (1.53)
Ile	ATT	122.0 (1.00)	Gln	CAA	60.0 (1.45)
	ATC	122.0 (1.00)		CAG	23.0 (0.55)
Met	ATA	85.0 (1.21)	Asn	AAT	32.0 (0.62)
	ATG	56.0 (0.79)		AAC	71.0 (1.38)
Val	GTT	56.0 (1.02)	Lys	AAA	48.0 (1.39)
	GTC	53.0 (0.97)		AAG	21.0 (0.61)
	GTA	67.0 (1.22)	Asp	GAT	25.0 (0.68)
	GTG	43.0 (0.79)		GAC	49.0 (1.32)
Ser	TCT	54.0 (1.30)	Glu	GAA	51.0 (1.20)
	TCC	69.0 (1.66)		GAG	34.0 (0.80)
	TCA	63.0 (1.51)	Cys	TGT	7.0 (0.47)
	TCG	16.0 (0.38)		TGC	23.0 (1.53)
	AGT	9.0 (0.22)	Trp	TGA	80.0 (1.38)
	AGC	39.0 (0.94)		TGG	36.0 (0.62)
	AGA	-	Arg	CGT	7.0 (0.40)
	AGG	-		CGC	13.0 (0.74)
Pro	CCT	41.0 (0.80)		CGA	37.0 (2.11)
	CCC	106.0 (2.06)	Gly	CGG	13.0 (0.74)
	CCA	44.0 (0.85)		GGT	29.0 (0.47)
	CCG	15.0 (0.29)		GGC	81.0 (1.32)
Thr	ACT	60.0 (0.84)		GGC	81.0 (1.32)
	ACC	109.0 (1.52)		GGG	55.0 (0.89)
	ACA	93.0 (1.30)	-	-	-
	ACG	24.0 (0.34)	-	-	-

Figure S1. Fivespot flounder (*Pseudorhombus pentophthalmus*) (Photo by Jin-Koo Kim). Creamy-brown body with lateral line and eyes on the left side of the body.



Figure S2. Secondary structures of 23 transfer RNAs from *P. pentophthalmus* mitogenome.

