SUPPLEMENTARY MATERIALS

Table S1: Primer sequences used in this study
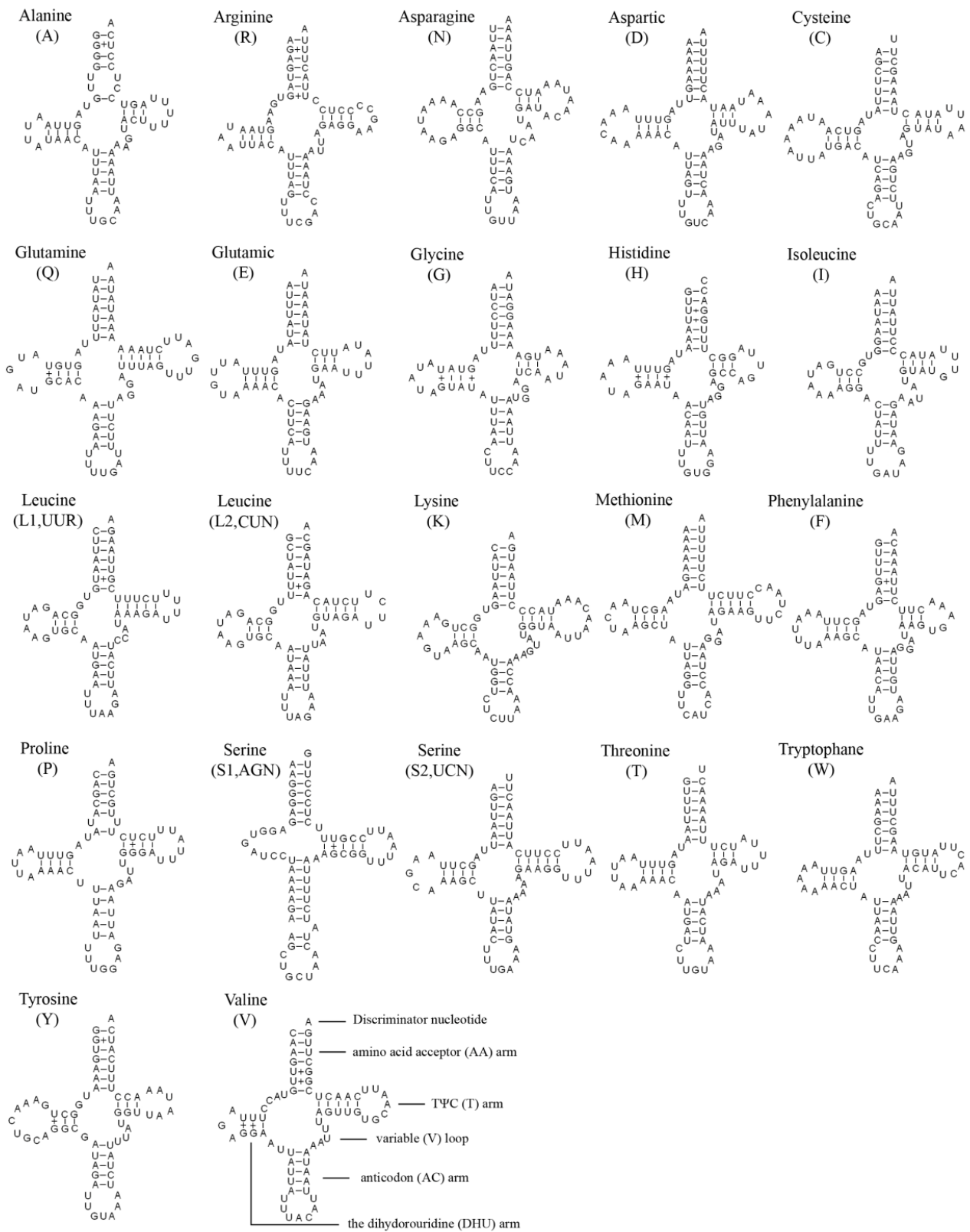
No. fragment[a]	Primer ID	Nucleotide sequence (5′-3′)	Reference
1	TM-J210	AATTAAGCTATTAGGTTCATACCC	Simon et al., 2006
	TW-N1284	TTAACTTTGAAGGTTAATAGTTT	Simon et al., 2006
2	F-1284	CAACAGTCAAATGAAGTGC	Present study
	R-1718	AGAAGGAGGTAATAGCCAG	Present study
3	C1-J1718	GGAGGATTTGGAAATTGATTAGTTCC	Simon et al., 2006
	C1-N2191	CCCGGTAAAATTAAAATATAAACTTC	Simon et al., 2006
4	F-2191	TGGGCACCCTGAAGTTT	Present study
	R-2183	CAGTTGGAACAGCAATGATT	Present study
5	C1-J2183	CAACATTTATTTTGATTTTTTGG	Simon et al., 2006
	TL2-N3014	TCCAATGCACTA ATCTGCCATATTA	Simon et al., 2006
6	C1-J2756	ACATTTTTTCCTCAACATTT	Simon et al., 2006
	C2-N3665	CCACAAATTTCTGAACACTG	Simon et al., 2006
7	F-3665	CCATTCTTGAACCATCCC	Present study
	R-5747	TTGAGAAGGGTATGCGAG	Present study
8	N3-J5747	CCATTTGAATGTGGRTTTGATCC	Simon et al., 2006
	TN-N6384	AAAATTAAAAGCATAATATTGAAG	Simon et al., 2006
9	F-6384	TTCCGTTTCTCCCTTGT	Present study
	R-7077	CTTCTCTTTATGTGGATTGC	Present study
10	N5-J7077	TTAAATCCTTTGAGTAAAATCC	Simon et al., 2006
	N5-N7793	TTAGGTTGAGATGGTTTAGG	Simon et al., 2006
11	N5-J7572	AAAGGGAATTTGAGCTCTTTTWGT	Simon et al., 2006
	N4-N8727	AAATCTTTRATTGCTTATTCWTC	Simon et al., 2006
12	N4-J8641	CCAGAAGAACACAAACCATG	Simon et al., 2006
	N4L-N9629	GTTTGTGAGGGTGCAATAGG	Simon et al., 2006
13	F-9629	CAATAAAGGTATGGATGCC	Present study
	R-10933	TTTGCCCTCAAGGTAGT	Present study
14	CB-J10933	GGACGWGGWATTTATTATGGATC	Simon et al., 2006
	CB-N11526	ATTACTCCTCCTAGCTTATTAGGAATTG	Simon et al., 2006
15	CB-J11335	CATATTCAACCAGAATGATA	Simon et al., 2006
	N1-N12067	AATCGTTCTCCATTTGATTTTGC	Simon et al., 2006
16	F-12067	GAAACTAATCTCTGACTCCC	Present study
	R-12261	CTTTGTTAGGAGGATTACG	Present study
17	N1-J12261	TACCTCATAAGAAATAGTTTGAGC	Simon et al., 2006
	LR-N13000	TTACCTTAGGGATAACAGCGTAA	Simon et al., 2006
18	LR-J12888	CCGGTCTGAACTCAGATCATGTA	Simon et al., 2006
	LR-N13889	ATTTATTGTACCTTTTGTATCAG	Simon et al., 2006
19	LR-J13342	CCTTAGCACAGTTAAAATACTGC	Simon et al., 2006
	LR-N14220	TTATGCACATATCGCCCGTC	Simon et al., 2006
20	F-14197	TCTCTCTTCACTTCGGG	Present study
	R-14220	TGTCAGGTCAAGGTGTAGT	Present study
21	LR-J14197	GTAAAYCTACTTTGTTACGACTT	Present study
	SR-N14745	GTGCCAGCAAYCGCGGTTATAC	Present study
22	F-14745	ATTCATTCACCCTGGCT	Present study
	R-210	CCTAATCATCTTTCTGCTCT	Present study

[a] The orientation is as shown in **Fig. 1.**

Table S2 General informatics of the taxa used in this study

Order/suborder	Infraorder/ superfamily	Family	Species	Accession Number
Thysanoptera				
		Thripidae	*Thrips imaginis*	NC_004371
Auchenorrhyncha				
	Fulgoroidea	Fulgoridae	*Lycorma delicatula*	NC_012835
		Issidae	*Sivaloka damnosa*	NC_014286
Heteroptera				
	Gerromorpha			
	Hydrometroidea	Hydrometridae	*Hydrometra* sp.	NC_012842
	Gerroidea	Gerridae	*Gerris* sp.	NC_012841
	Nepomorpha			
	Corixoidea	Corixidae	*Sigara septemlineata*	FJ456941
	Ochteroidea	Gelastocoridae	*Nerthra* sp.	NC_012838
		Ochteridae	*Ochterus marginatus*	NC_012820*
	Notonectoidea	Notonectidae	*Enithares tibialis*	NC_012819
		Pleidae	*Paraplea frontalis*	NC_012822
	Nepoidea	Nepidae	*Laccotrephes robustus*	NC_012817
		Belostomatidae	*Diplonychus rusticus*	FJ456939*
	Naucoroidea	Naucoridae	*Ilyocoris cimicoides*	NC_012845
		Aphelocheiridae	*Aphelocheirus ellipsoideus*	FJ456940*
	Leptopodomorpha			
	Saldoidea	Saldidae	*Saldula arsenjevi*	NC_012463
	Leptopodoidea	Leptopodidae	*Leptopus sp*	FJ456946
	Cimicomorpha			
	Cimicoidea	Anthocoridae	*Orius niger*	NC_012429*
	Reduvioidea	Reduviidae	*Agriosphodrus dohrni*	HM071001
			Triatoma dimidiata	NC_002609
			Valentia hoffmanni	NC_012823
	Miroidea	Miridae	*Lygus lineolaris*	EU401991*
	Pentatomomorpha			
	Aeadoidea	Aradidae	*Neuroctenus parus*	NC_012459
	Pentatomoidea	Pentatomidae	*Nezara viridula*	NC_011755
			Halyomorpha halys	NC_013272
		Cydnidae	*Macroscytus subaeneus*	NC_012457*
		Plataspidae	*Coptosoma bifaria*	NC_012449
	Lygaeoidea	Berytidae	*Yemmalysus parallelus*	NC_012464
		Colobathristidae	*Phaenacantha marcida*	NC_012460*
		Malcidae	*Malcus inconspicuus*	NC_012458
		Geocoridae	*Geocoris pallidipennis*	NC_012424*
	Pyrrhocoroidea	Largidae	*Physopelta gutta*	NC_012432
		Pyrrhocoridae	*Dysdercus cingulatus*	NC_012421
	Coreoidea	Alydidae	*Riptortus pedestris*	NC_012462
		Coreidae	*Hydaropsis longirostris*	NC_012456
		Rhopalidae	*Aeschyntelus notatus*	NC_012446*
			Stictopleurus subviridis	NC_012888

"*": Incomplete mitogenomes.

Alanine (A)

Arginine (R)

Asparagine (N)

Aspartic (D)

Cysteine (C)

Glutamine (Q)

Glutamic (E)

Glycine (G)

Histidine (H)

Isoleucine (I)

Leucine (L1,UUR)

Leucine (L2,CUN)

Lysine (K)

Methionine (M)

Phenylalanine (F)

Proline (P)

Serine (S1,AGN)

Serine (S2,UCN)

Threonine (T)

Tryptophane (W)

Tyrosine (Y)

Valine (V)

— Discriminator nucleotide

— amino acid acceptor (AA) arm

— TΨC (T) arm

— variable (V) loop

— anticodon (AC) arm

— the dihydorouridine (DHU) arm

Figure S1. Inferred secondary structure of 22 tRNAs of the *A. dohrni* mitogenome. The tRNAs are labeled with the abbreviations of their corresponding amino acids. Dashed (-) indicate Watson-Crick base pairing and (+) indicate G-U base pairing.