

Table S1. *Phrynocephalus* and two outgroup species analyzed in this study with their GenBank accession numbers.

Taxon	Family	GenBank accession number	Size (bp)	Reference
<i>Phrynocephalus albolineatus</i>	Agamidae	KP279760	16,808	[S1]
<i>Phrynocephalus axillaris</i>	Agamidae	KC119493	17,937	[S2]
<i>Phrynocephalus axillaris</i>	Agamidae	MK284224	15,883	[S3]
<i>Phrynocephalus erythrurus erythrurus</i>	Agamidae	MF039065	16,456	[S4]
<i>Phrynocephalus erythrurus parva</i>	Agamidae	KJ630904	16,379	[S5]
<i>Phrynocephalus forsythii</i>	Agamidae	KP126516	17,542	[S6]
<i>Phrynocephalus forsythii</i>	Agamidae	KP232959	16,143	[S7]
<i>Phrynocephalus forsythii</i>	Agamidae	MK284225	16,060	[S8]
<i>Phrynocephalus frontalis</i>	Agamidae	MF039064	17,041	[S4]
<i>Phrynocephalus grumgrzimailoi</i>	Agamidae	KM093859	16,301	[S9]
<i>Phrynocephalus guinanensis</i>	Agamidae	KJ885621	16,279	[S10]
<i>Phrynocephalus helioscopus cameranoi</i>	Agamidae	OL493804	17,102	This study
<i>Phrynocephalus helioscopus varius I</i>	Agamidae	KM093858	16,249	[S11]
<i>Phrynocephalus helioscopus varius II</i>	Agamidae	OL493803	17,253	This study
<i>Phrynocephalus mystaceus</i>	Agamidae	KC578685	16,660	[S12]
<i>Phrynocephalus przewalskii</i>	Agamidae	KF572032	16,892	[S13]
<i>Phrynocephalus putjatai</i>	Agamidae	KJ830752	16,283	[S14]
<i>Phrynocephalus theobaldi orientalis</i>	Agamidae	KJ551842	16,608	[S15]
<i>Phrynocephalus theobaldi orientalis</i>	Agamidae	MF039062	17,129	[S4]
<i>Phrynocephalus theobaldi theobaldi</i>	Agamidae	MF039063	16,365	[S4]
<i>Phrynocephalus versicolor</i>	Agamidae	KJ749841	16,429	[S16]
<i>Phrynocephalus vlangelii nanschanica</i>	Agamidae	MF039061	15,251	[S4]
<i>Phrynocephalus vlangelii pylzowi</i>	Agamidae	MF039059	16,442	[S4]
<i>Phrynocephalus vlangelii pylzowi</i>	Agamidae	MF039060	16,725	[S4]
<i>Phrynocephalus vlangelii vlangelii</i>	Agamidae	MF039058	16,319	[S4]
<i>Pseudotrapelus sinaitus</i>	Agamidae	AB262447	16,560	Amer and Kumazawa (Unpublished data)
<i>Xenagama taylori</i>	Agamidae	DQ008215	16,220	[S17]

References in supporting materials

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- S10. Fu, C.; Chen, W.; Jin, Y. The complete mitochondrial genome of *Phrynocephalus guinanensis* (Reptilia, Squamata, Agamidae). *Mitochondrial DNA Part A* **2014**, *27*, 1103–1104.
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