Supplemental Information

Table S1. Degenerate Primers designed for sequencing opsin genes from genomic DNA

| Opsin	Primer	Sequence (5'-3')	Source
RH1	SquamR1_1F	AAGGAGTCTGARTCIACICARAARGC	This paper
RH1	SquamR1_972R	GCGGAACTGTCGATTCATRAAIACRTADAT	This paper
LWS	DIAPLMF1	AAGCGTATTYAYTTAYACCRACASCAACAA	Davis et al., 2009
LWS	DIAPLMR1	CATCCTBGACACYTCCYTCTCVGCCTTCTG'	Davis et al., 2009
LWS	PM_LWS3'GW_877F	TCTGGCAGCTTCCCTGCCTGCCTTCTT	This paper
LWS	PM_LWS3'GW_877FR	GTAATACGACTCACTATAGGGC	This paper
LWS	PM_LWS3'GW_865F	TGCCTTTCACCCTCTGGCAGCTTCCCT	This paper
LWS	PM_LWS3'GW_865FR	GTAATACGACTCACTATAGGGC	This paper
LWS	PM_LWS3'GW_905F	GCAAAAAGCGCCACCATTTACAACCCA	This paper
LWS	PM_LWS3'GW_905FR	CGGGCTGGTGCGGAACTGTCGATTCAT	This paper
LWS	PM_LWS3'GW_936F	TATACGTCTTCATGAATCGACAGTCCG	This paper
LWS	PM_LWS3'GW_936FR	ACTATAGGGCACGCGTGGT	This paper
LWS	PM_LWS5'GW_212R	GTAATACGACTCACTATAGGGC	This paper
LWS	PM_LWS5'GW_212RR	TTGGCTGTGGCCACCAATACCAAACCA	This paper
LWS	PM_LWS5'GW_210R	GTAATACGACTCACTATAGGGC	This paper
LWS	PM_LWS5'GW_210RR	GGCTGTGGCCACCAATACCAAACCATT	This paper
LWS	PM_LWS5'GW_90R	GTAATACGACTCACTATAGGGC	This paper
LWS	PM_LWS5'GW_90RR	AGGGTCACGGGTATTGTTGCTGTTGGT	This paper
LWS	PM_LWS5'GW_89R	GTAATACGACTCACTATAGGGC	This paper
LWS	PM_LWS5'GW_89RR	GGGTCACGGGTATTGTTGCTGTTGGTG	This paper
SWS1	SquamS1_84F	TCCTCGCCTTCGAACGATATRTSGTSATCT	This paper
SWS1	SquamS1_857R	CATCATCCACTTTYTTSCCRAASAGCTGCA	This paper
SWS1	PM_S13'GW_478F	ATGTACATGGTGAACAACCCTCAGCAC	This paper
SWS1	PM_S13'GW_478FR	GTAATACGACTCACTATAGGGC	This paper
SWS1	PM_S13'GW_477F	CATGTACATGGTGAACAACCCTCAGCA	This paper
SWS1	PM_S13'GW_477FR	GTAATACGACTCACTATAGGGC	This paper
SWS1	PM_S13'GW_519F	CTTGGTCACCATCCCTGCCTTCTTC	This paper
SWS1	PM_S13'GW_519FR	GTAATACGACTCACTATAGGGC	This paper
SWS1	PM_S13'GW_522F	GGTCACCATCCCTGCCTTCTTCTCCAA	This paper
SWS1	PM_S13'GW_522FR	ACTATAGGGCACGCGTGGT	This paper
SWS1	PM_S15'GW_128R	GTAATACGACTCACTATAGGGC	This paper
SWS1	PM_S15'GW_128RR	ACTACCACAGCATGTTTGGAGTGGAAA	This paper
SWS1	PM_S15'GW_120R	GTAATACGACTCACTATAGGGC	This paper
SWS1	PM_S15'GW_120RR	AGCATGTTTGGAGTGGAAACGGAAGT	This paper
SWS1	PM_S15'GW_99R	ACTATAGGGCACGCGTGGT	This paper
SWS1	PM_S15'GW_99RR	GAAGTTCCCCAGCGGCTTGCAGATCAC	This paper
SWS1	PM_S15'GW_95R	ACTATAGGGCACGCGTGGT	This paper
SWS1	PM_S15'GW_95RR	TTCCCCAGCGGCTTGCAGATCACGATA	This paper

Table S2. List of sequences used in the phylogenetic analyses of opsin genes

	RH1	LWS	SWS
Amerotyphlops brongersmianus	KR336737	------	------
Amphisbaena alba	KR336729	KR336705	KR336720
Amphisbaena infraorbitale	KR336730	KR336704	KR336719
Anilius scytale	KR336736	------	------
Anolis carolinensis	NM_001291387	U08131 XM_008103916	AF134194
Arizona elegans	KU324006	KU323986	KU323997
Atractus flammigerus	KR336740	KR336712	KR336726
Bachia flavescens	KR336731	KR336703	KR336715
Epictia collaris	KR336735	------	------
Feylinia	KR336742	KR336714	KR336717
Gekko gecko	------	M92036	AY024356
Gekko japonicus	------	XM_015415465	XM_015427348
Hydrophis peronii	KU324001	KU323990	KU323991
Hypsiglena jani	KU324007	KU323988	KU323998
Iguana iguana	------	------	AB626972
Lampropeltis californiae	KU324004	KU323987	KU323992
Liotyphlops beui	KR336734	------	------
Melanoseps occidentalis	KR336743	KR336713	KR336718
Natrix maura	KU324002	KU323982	KU323993
Notechis scutatus	KU324000	KU323989	KU323999
Ophiodes striatus	KR336732	KR336708	KR336716
Phelsuma madagascariensis	------	AF074043	AF074045
Phyllorhynchus decurtatus	------	KU323985	KU323996
Pituophis melanoleucus	xxxxxx	xxxxxx	xxxxxx
Polemon collaris	KR336739	KR336710	KR336724
Protobothrops mucrosquamatus	XM_015823472	XM_015812260	XM_015825841
Pseustes poecilonotus	KR336741	KR336711	KR336725
Python bivittatus	XM_007423262	XM_007420519	XM_007441636
Python regius	FJ497236	FJ497238	FJ497237
Takydromus sexlineatus	KR336727	KR336707	KR336722
Telescopus fallax	KU324005	KU323984	KU323995
Thamnophis proximus	KU306726	KU306727	KU306728

Thamnophis sirtalis	XM_014059138	XM_014068735	XM_014075668 KU32399
Tropidophis feicki	KR336738	KR336709	KR336723
Typhlophis squamosus	KR336733	------	------
Uta stansburiana	DQ100323	DQ129869	DQ100325
Xenopeltis unicolor	FJ497233	FJ497235	FJ497234
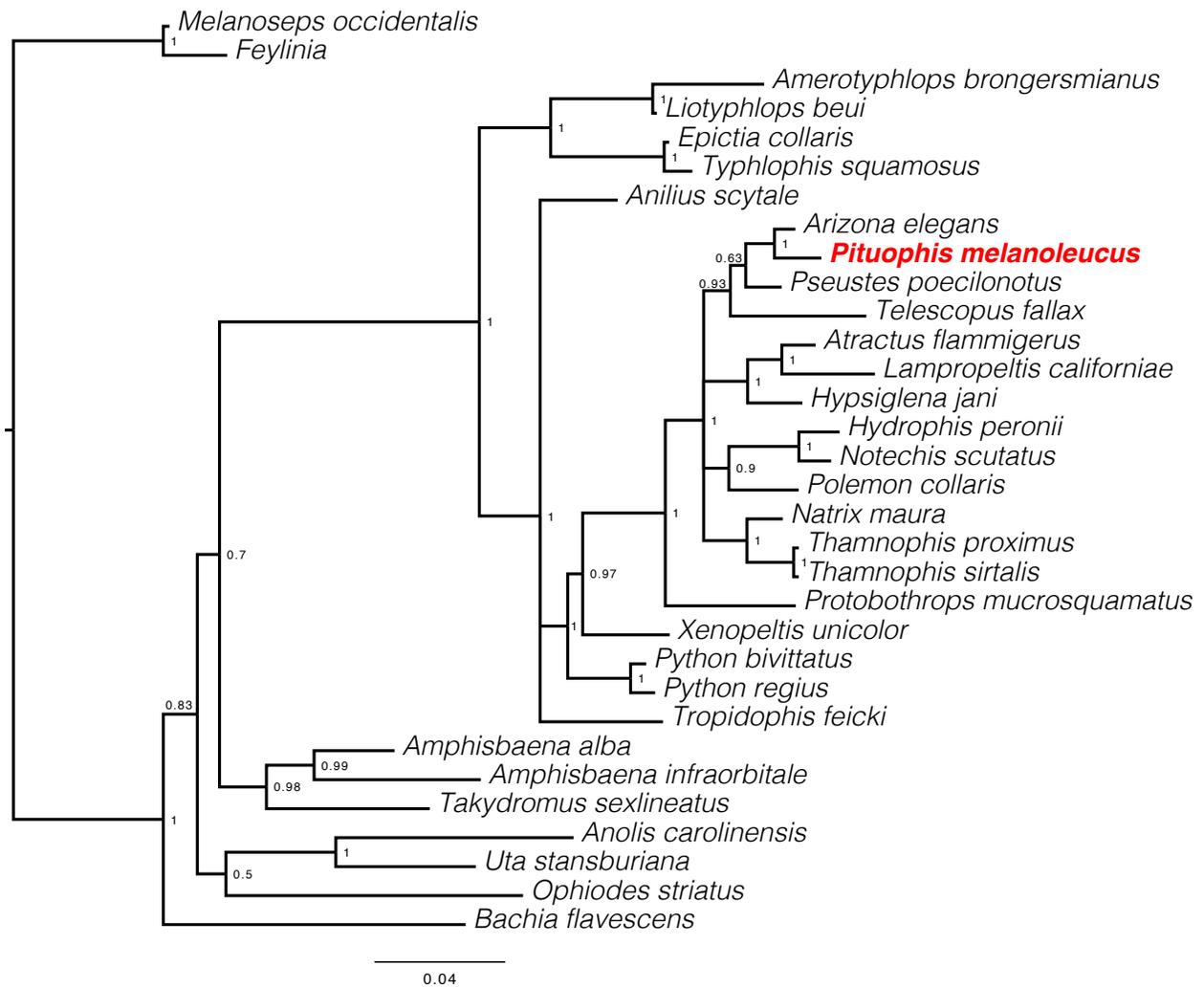
Figure S1. Rhodopsin gene tree estimated using Bayesian inference illustrating the position of *Pituophis melanoleucus* RH1. Numbers at the nodes are posterior probability percentages.
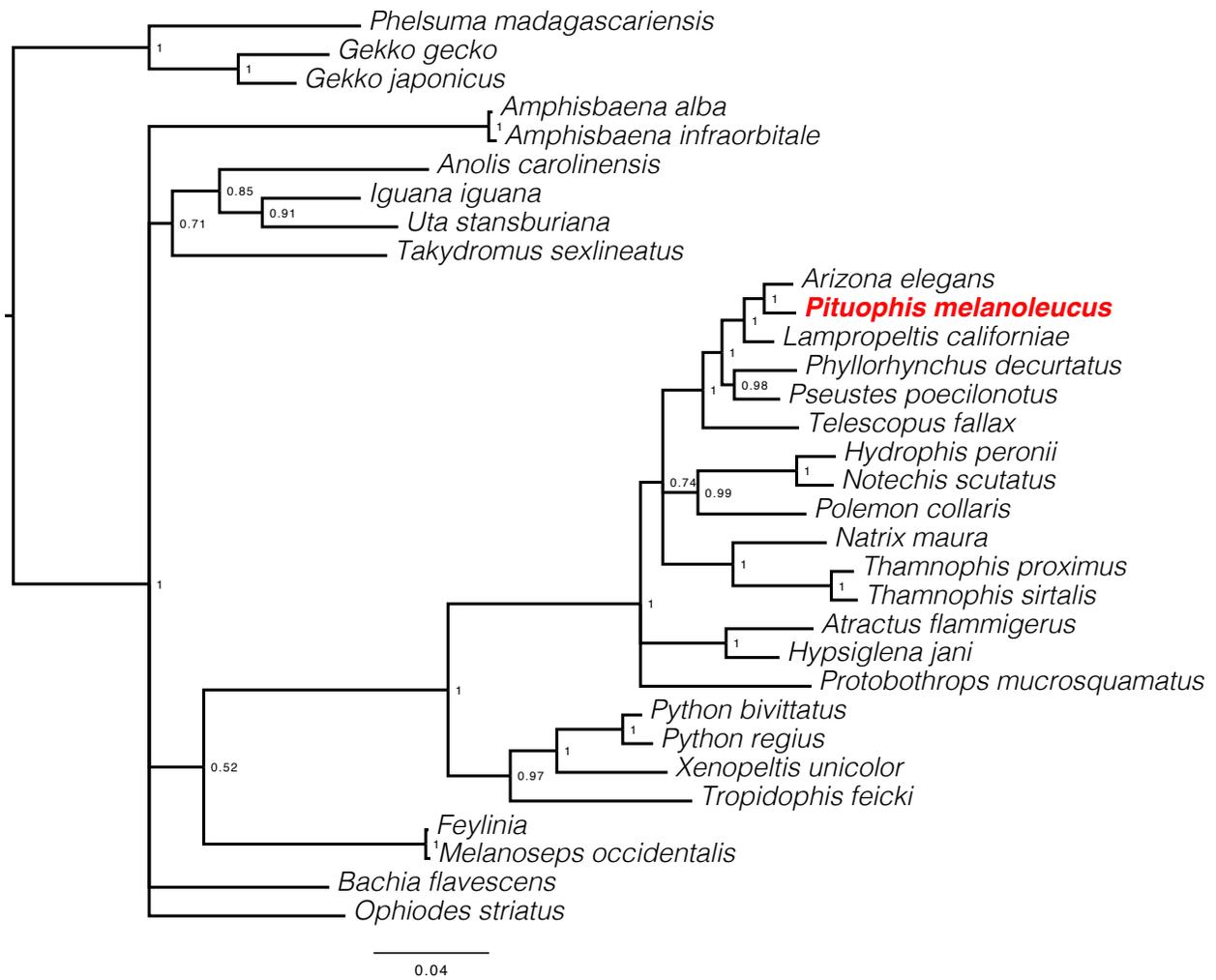
Figure S2. SWS1 gene tree estimated using Bayesian inference illustrating the position of *Pituophis melanoleucus* SWS1. Numbers at the nodes are posterior probability percentages.
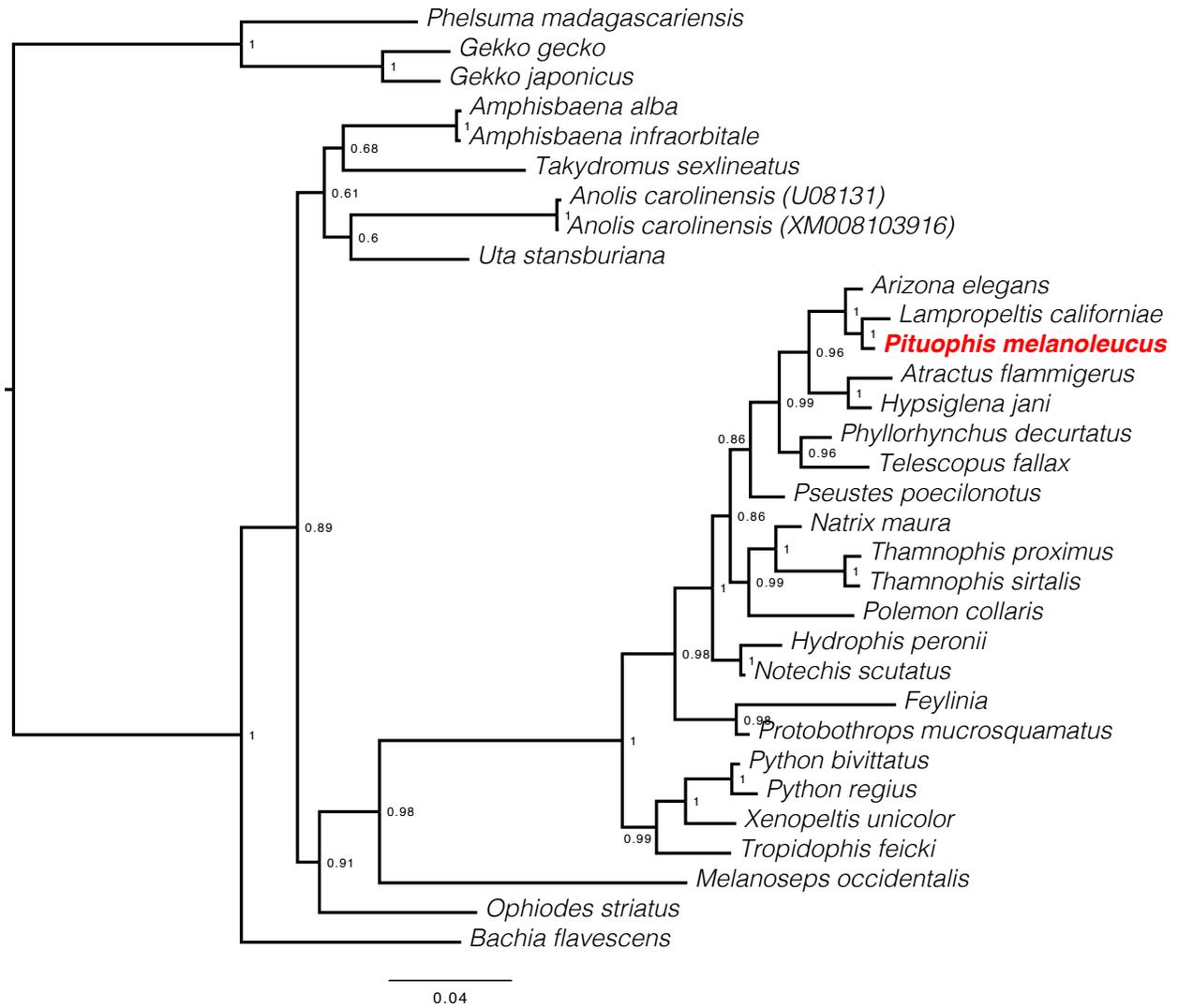
Figure S3. LWS gene tree estimated using Bayesian inference illustrating the position of *Pituophis melanoleucus* LWS. Numbers at the nodes are posterior probability percentages.