

Table S2.1. Nodes and fossil ages used for estimating divergence times. Age is given as a range (minimum and maximum ages) or as a minimum age given in millions of years (Myr). Refer to references for justification for each fossil calibration selected. Our nodes Boidae, Charininae, *Charina* correspond to Boinae, Charinidae, and Charininae, respectively, in Head (2015).

Node	Age Range (Myr)	Reference
Pan-Serpentes	113 - 98.3	Head, 2015
Scolecophidia - Alethinophidia split	140 - 85	Sanders et al., 2010
Aniliidae	72.1	Head, 2015
Charinidae	35.2	Head, 2015
<i>Charina</i>	18.7	Head, 2015
Boidae	64 - 58	Head, 2015
<i>Corallus</i>	64 - 50.2	Head, 2015
<i>Eunectes</i>	12.4	Head, 2015
Loxocemidae	35.2	Head, 2015
<i>Morelia</i>	12.5	Head, 2015
Alethinophidia	100.5 - 93.9	Head, 2015
Acrochordidae	25 - 18	Sanders et al., 2010
Caenophidia	70 - 48	Sanders et al., 2010
Viperidae	45 - 20	Sanders et al., 2010
Elapidae	35 - 20	Sanders et al., 2010

References

Head, J.J. 2015. Fossil calibration dates for molecular phylogenetic analysis of snakes 1:

Serpentes, Alethinophidia, Boidae, Pythonidae. *Palaeontol. Electron.* 18, 1-17.

Sanders, K.L., Mumpuni, Hamidy, A., Head, J.J., Gower, D.J. 2010. Phylogeny and divergence times of filesnakes (*Acrochordus*): Inferences from morphology, fossils and three molecular loci. *Mol. Phylogenet. Evol.* 56, 857-867.

Table S2.2. List of 402 genera sampled and 113 genera not sampled in Chapter 1. For genera sampled, the total number of species, the number of species sampled, and the percentage of species sampled is provided for each genus. For genera not sampled, the total number of species, family or subfamily designation, and distribution is provided. *i.s.* = *incertae sedis*.

Genera Sampled				Clade Age (millions of years)	Genera Not Sampled			
Genus	# Species	# Sampled	% Sampled		Genus	# Species	Family/Subfamily	Distribution
<i>Acanthophis</i>	8	6	75.00%	21.51	<i>Aeluroglena</i>	1	Colubrinae	Ethiopia; Somalia
<i>Achalinus</i>	9	2	22.22%	22.09	<i>Amnesteophis</i>	1	Dipsadinae	Brazil
<i>Acrantophis</i>	2	2	100.00%	51.33	<i>Amphiesmoides</i>	1	Natricinae	China; Vietnam
<i>Acrochordus</i>	3	3	100.00%	25.00	<i>Anomalepis</i>	4	Anomalepididae	Central & South America
<i>Acutotyphlops</i>	5	2	40.00%	47.38	<i>Anoplohydrus</i>	1	Natricinae	Sumatra
<i>Adelophis</i>	2	2	100.00%	11.47	<i>Antaioserpens</i>	1	Elapidae	Australia
<i>Adelphicos</i>	2	2	100.00%	33.54	<i>Aprosdoketophis</i>	1	Colubrinae	Somalia
<i>Afronatrix</i>	1	1	100.00%	38.72	<i>Argyrogena</i>	2	Colubrinae	India Subcontinent; Sri Lanka
<i>Afrotiphlops</i>	26	10	38.46%	48.18	<i>Blythia</i>	1	Colubridae <i>i.s.</i>	India; Myanmar; China
<i>Agkistrodon</i>	6	6	100.00%	29.42	<i>Bolyeria*</i>	1	Bolyeridae	Round Island
<i>Ahaetulla</i>	8	6	75.00%	44.04	<i>Brygophis</i>	1	Pseudoxyrhophiinae	Madagascar
<i>Aipysurus</i>	8	7	87.50%	16.32	<i>Cacophis</i> [†]	4	Elapidae	Australia
<i>Alluaudina</i>	2	1	50.00%	28.82	<i>Calamophis</i>	4	Homalopsidae	Papua Province; Papua New Guinea
<i>Alsophis</i>	9	7	77.78%	49.67	<i>Calamorhabdium</i>	2	Calamariinae	Indonesia
<i>Amastridium</i>	2	1	50.00%	51.23	<i>Cathetorhinus</i>	1	Gerrhopilidae	Possibly Mauritius
<i>Amblyodipsas</i>	9	2	22.22%	19.36 [§]	<i>Cercophis</i>	1	Dipsadinae	Suriname
<i>Amerotyphlops</i>	15	3	20.00%	62.47	<i>Chamaelycus</i>	4	Lamprophiinae	Africa
<i>Amphiesma</i>	1	1	100.00%	25.86	<i>Chapinophis</i>	1	Colubrinae	Guatemala
<i>Amplorhinus</i>	1	1	100.00%	24.31	<i>Chersodromus</i>	2	Dipsadinae	Mexico
<i>Anilius</i>	46	28	60.87%	65.47	<i>Chilorhinophis</i>	2	Aparallactinae	Africa
<i>Anilius</i>	1	1	100.00%	84.91	<i>Collorhabdium</i>	1	Calamariinae	Peninsular Malaysia

<i>Anomochilus</i>	3	1	33.33%	33.22	<i>Colubroelaps</i>	1	Colubrinae	Vietnam
<i>Antaresia</i>	4	4	100.00%	42.64	<i>Coronelaps</i>	1	Dipsadinae	Brazil
<i>Aparallactus</i>	11	4	36.36%	23.64	<i>Cristantophis</i> [†]	1	Dipsadinae	Central America
<i>Aplopeltura</i>	1	1	100.00%	58.04	<i>Cyclocorus</i>	2	Colubridae <i>i.s.</i>	Philippines
<i>Apostolepis</i>	31	6	19.35%	26.19	<i>Cyclotyphlops</i>	1	Asiatyphlopinae	Sulawesi
<i>Archelaphe</i>	1	1	100.00%	57.92	<i>Dendrolycus</i>	1	Lamprophiinae	Africa
<i>Argyrophis</i>	12	2	16.67%	41.06	<i>Diaphorolepis</i> ^{††}	2	Dipsadinae	Central & South America
<i>Arizona</i>	1	1	100.00%	9.63	<i>Ditaxodon</i>	1	Dipsadinae	Brazil
<i>Arrhyton</i>	8	7	87.50%	45.25	<i>Djokoiskandarus</i>	1	Homalopsidae	Papua Province
<i>Aspidelaps</i>	2	2	100.00%	31.43 [§]	<i>Elachistodon</i>	1	Colubrinae	India Subcontinent
<i>Aspidites</i>	2	2	100.00%	34.13	<i>Elapoidis</i>	1	Colubrinae <i>i.s.</i>	Borneo; Java; Sumatra
<i>Aspidomorphus</i>	3	3	100.00%	14.42	<i>Emmochliophis</i>	2	Dipsadinae	Ecuador
<i>Aspidura</i>	7	4	57.14%	43.95	<i>Enuliophis</i>	1	Dipsadinae	Central & South America
<i>Asthenodipsas</i>	5	4	80.00%	45.87	<i>Enulius</i> [†]	4	Dipsadinae	Mexico; Central & South America
<i>Atheris</i>	16	8	50.00%	25.71	<i>Epacrophis</i>	3	Leptotyphlopinae	Kenya; Somalia
<i>Atractaspis</i>	21	6	28.57%	29.60	<i>Etheridgeum</i>	1	Calamariinae	Sumatra
<i>Atractus</i>	138	10	7.25%	22.66	<i>Eutrachelophis</i>	2	Dipsadinae	Bolivia; Peru
<i>Atretium</i>	2	2	100.00%	61.81	<i>Ferania</i>	1	Homalopsidae	Peninsular Malaysia
<i>Atropoides</i>	6	6	100.00%	23.72 [§]	<i>Ficimia</i> [†]	7	Colubrinae	Central America; Mexico; U.S.A.
<i>Austrelaps</i>	3	2	66.67%	8.34	<i>Fimbrios</i>	2	Xenodermatidae	Cambodia; Laos; Vietnam
<i>Azemiops</i>	2	1	50.00%	44.99	<i>Geagras</i>	1	Colubrinae	Mexico
<i>Balanophis</i>	1	1	100.00%	25.35	<i>Gonglyosoma</i>	5	Colubridae <i>i.s.</i>	Southeast Asia
<i>Bamanophis</i>	1	1	100.00%	21.48	<i>Grypotyphlops</i>	1	Afrottyphlopinae	India
<i>Bitia</i>	1	1	100.00%	15.08	<i>Gyalopion</i> [†]	2	Colubrinae	Mexico; U.S.A.
<i>Bitis</i>	17	14	82.35%	26.89	<i>Gyiophis</i>	2	Homalopsidae	Myanmar; Nias
<i>Boa</i>	2	1	50.00%	64.00	<i>Helminthophis</i>	3	Anomalepididae	Central & South America
<i>Boaedon</i>	8	7	87.50%	69.64	<i>Helophis</i>	1	Natricinae	Congo
<i>Bogertophis</i>	2	2	100.00%	15.28	<i>Heurnia</i>	1	Homalopsidae	Papua Province
<i>Boiga</i>	33	16	48.48%	41.98	<i>Hologerrhum</i>	2	Natricinae	Philippines

<i>Boiruna</i>	2	1	50.00%	14.65	<i>Homalophis</i>	2	Homalopsidae	Borneo
<i>Borikenophis</i>	3	2	66.67%	26.08	<i>Hydrablades</i>	2	Natricinae	Borneo
<i>Bothriechis</i>	10	10	100.00%	29.73	<i>Hydraethiops</i>	2	Natricinae	Africa
<i>Bothrochilus</i>	7	3	42.86%	45.87	<i>Hypoptophis</i>	1	Aparallactinae	Congo; Zambia
<i>Bothrocophias</i>	6	3	50.00%	12.36 [§]	<i>Iguanognathus</i>	1	Natricinae	Sumatra
<i>Bothrolycus</i>	1	1	100.00%	41.33	<i>Isanophis</i>	1	Natricinae	Thailand
<i>Bothrophthalmus</i>	2	2	100.00%	21.03	<i>Karnsophis</i>	1	Homalopsidae	Sumatra
<i>Bothrops</i>	44	34	77.27%	27.13 [§]	<i>Kolpophis</i>	1	Elapidae	Southeast Asia
<i>Brachyophidium</i>	1	1	100.00%	67.24	<i>Kualatahan</i>	1	Homalopsidae	Peninsular Malaysia
<i>Brachyorrhos</i>	4	2	50.00%	31.80	<i>Lemuriatyphlops</i>	3	Asiatyphlopinae	Madagascar
<i>Brachyurophis</i>	7	6	85.71%	17.22	<i>Leptodrymus</i>	1	Colubrinae	Central America
<i>Buhoma</i>	3	2	66.67%	52.16 [§]	<i>Limnophis</i>	2	Natricinae	Africa
<i>Bungarus</i>	14	10	71.43%	34.95	<i>Lioheterophis</i>	1	Dipsadinae	Brazil
<i>Caaeteboia</i>	1	1	100.00%	33.30	<i>Loveridgelaps</i>	1	Elapidae	Solomon Islands
<i>Calabaria</i>	1	1	100.00%	76.85	<i>Lycognathophis</i> [†]	1	Natricinae	Seychelles
<i>Calamaria</i>	61	2	3.28%	22.97	<i>Macrocalamus</i>	7	Calamariinae	Peninsular Malaysia
<i>Calamodontophis</i>	2	1	50.00%	24.61	<i>Meizodon</i>	5	Colubrinae	Africa
<i>Calliophis</i>	10	3	30.00%	24.88	<i>Mintonophis</i>	1	Homalopsidae	Pakistan
<i>Calloselasma</i>	1	1	100.00%	30.61	<i>Miralia</i>	1	Homalopsidae	Southeast Asia
<i>Candoia</i>	5	3	60.00%	62.62	<i>Montaspis</i>	1	Lamprophiidae <i>i.s.</i>	South Africa
<i>Cantoria</i>	1	1	100.00%	19.06	<i>Mussurana</i> [†]	3	Dipsadinae	Brazil; Paraguay; Peru
<i>Caraiba</i>	1	1	100.00%	21.40	<i>Myerophis</i>	1	Colubridae <i>i.s.</i>	Philippines
<i>Carphophis</i>	2	2	100.00%	14.93	<i>Nothopsis</i> [†]	1	Dipsadinae	Central & South America
<i>Casarea</i>	1	1	100.00%	50.48	<i>Ogmodon</i>	1	Elapidae	Fiji
<i>Causus</i>	7	3	42.86%	19.20	<i>Omoadiphias</i>	3	Dipsadinae	Honduras
<i>Cemophora</i>	1	1	100.00%	28.61	<i>Oreocalamus</i> [†]	1	Calamariinae	Borneo; Peninsular Malaysia
<i>Cerastes</i>	4	3	75.00%	19.09	<i>Parafimbrios</i>	1	Xenodermatidae	Laos
<i>Cerberus</i>	5	3	60.00%	23.25	<i>Parahelicops</i>	1	Natricinae	Vietnam
<i>Cerrophidion</i>	5	4	80.00%	12.74 [§]	<i>Parapistocalamus</i>	1	Elapidae	Papua New Guinea; Solomon Islands

<i>Charina</i>	2	2	100.00%	49.71	<i>Pararhabdophis</i>	1	Natricinae	Vietnam
<i>Chilabothrus</i>	10	9	90.00%	33.80	<i>Pararhadinaea</i>	1	Pseudoxyrhopiinae	Madagascar
<i>Chilomeniscus</i>	2	1	50.00%	21.20	<i>Paratapinophis</i>	1	Natricinae	SW China; Laos; Thailand
<i>Chionactis</i>	3	1	33.33%	22.14	<i>Platyplectrurus</i>	2	Uropeltidae	India; Sri Lanka
<i>Chironius</i>	21	13	61.90%	39.37	<i>Plectrurus</i>	4	Uropeltidae	India
<i>Chrysopelea</i>	5	4	80.00%	40.72	<i>Plesiodipsas</i>	1	Dipsadinae	Colombia; Venezuela
<i>Clelia</i>	7	1	14.29%	51.47	<i>Poecilopholis</i>	1	Colubridae <i>i.s.</i>	Cameroon
<i>Clonophis</i>	1	1	100.00%	12.58	<i>Pseudohaje</i>	2	Elapidae	Africa
<i>Coelognathus</i>	7	5	71.43%	46.30	<i>Rabdion</i>	1	Calamariinae	Sulawesi
<i>Coluber</i>	12	6	50.00%	48.01	<i>Raclitia</i>	1	Homalopsidae	Peninsular Malaysia
<i>Compsophis</i>	7	4	57.14%	13.97	<i>Rhabdops</i>	2	Colubridae <i>i.s.</i>	W China; India; Myanmar
<i>Coniophanes</i>	17	1	5.88%	21.51	<i>Rhadinella</i>	16	Dipsadinae	Mexico; Central & South America
<i>Conophis</i>	3	2	66.67%	23.32 [§]	<i>Rhadinophanes</i>	1	Dipsadinae	Mexico
<i>Conopsis</i>	6	2	33.33%	23.32 [§]	<i>Rhamnophis</i> ^{††}	2	Colubrinae	Africa
<i>Contia</i>	2	2	100.00%	17.65	<i>Rhynchocalamus</i> ^{††}	3	Colubrinae	Egypt; Middle East; Turkey
<i>Corallus</i>	9	7	77.78%	50.20	<i>Salomonelaps</i>	1	Elapidae	Solomon Islands
<i>Coronella</i>	3	2	66.67%	13.16	<i>Saphenophis</i>	5	Dipsadinae	Colombia; Ecuador
<i>Crotalus</i>	41	34	82.93%	28.21	<i>Scolecophis</i>	1	Colubrinae	Central America
<i>Crotaphopeltis</i>	6	2	33.33%	19.88	<i>Simophis</i>	1	Colubrinae	Brazil; Paraguay
<i>Cryophis</i>	1	1	100.00%	53.02	<i>Stegonotus</i>	10	Colubrinae	Australia; Papua New Guinea; Philippines; Southeast Asia
<i>Cryptophis</i>	5	1	20.00%	6.46	<i>Sumatranus</i>	1	Homalopsidae	Java; Sumatra
<i>Cubophis</i>	6	5	83.33%	28.39	<i>Symphimus</i>	2	Colubrinae	Mexico
<i>Cyclophiops</i>	6	2	33.33%	43.94 [§]	<i>Synophis</i> ^{††}	4	Dipsadinae	Colombia; Ecuador
<i>Cylindrophis</i>	13	2	15.38%	60.20 [§]	<i>Tantillita</i>	3	Colubrinae	Mexico; Central America
<i>Daboia</i>	5	4	80.00%	17.31	<i>Teretrurus</i>	1	Uropeltidae	India
<i>Dasypeltis</i>	12	7	58.33%	31.63	<i>Tetralepis</i>	1	Colubridae <i>i.s.</i>	Java
<i>Deinagkistrodon</i>	1	1	100.00%	19.51	<i>Thalassophis</i>	1	Elapidae	Southeast Asia
<i>Demansia</i>	14	3	21.43%	11.23	<i>Trimetopon</i> [†]	6	Dipsadinae	Costa Rica; Panama
<i>Dendrelaphis</i>	44	14	31.82%	46.34	<i>Tropidonophis</i>	19	Natricinae	Indonesia; Papua New Guinea

<i>Dendroaspis</i>	4	3	75.00%	21.82	<i>Uromacerina</i>	1	Dipsadinae	Brazil
<i>Dendrophidion</i>	15	2	13.33%	20.48	<i>Urotheca</i>	8	Dipsadinae	Central & South America
<i>Denisonia</i>	2	1	50.00%	24.41	<i>Xenelaphis</i>	2	Colubrinae	Southeast Asia
<i>Diadophis</i>	1	1	100.00%	60.58	<i>Xyelodontophis</i> ^{††}	1	Colubrinae	Tanzania
<i>Dieurostus</i>	1	1	100.00%	60.68	<i>Xylophis</i>	3	Xenodermatidae	India
<i>Dipsadoboa</i>	10	5	50.00%	33.06				
<i>Dipsas</i>	35	9	25.71%	21.14 [§]				
<i>Dipsina</i>	1	1	100.00%	54.59				
<i>Dispholidus</i>	1	1	100.00%	28.32				
<i>Dityopphis</i>	1	1	100.00%	19.49				
<i>Dolichophis</i>	4	4	100.00%	5.62 [§]				
<i>Drepanoides</i>	1	1	100.00%	10.45				
<i>Dromicodryas</i>	2	2	100.00%	30.52				
<i>Drymarchon</i>	5	2	40.00%	34.64				
<i>Drymobius</i>	4	1	25.00%	30.71				
<i>Drymoluber</i>	3	2	66.67%	19.86				
<i>Dryocalamus</i>	6	4	66.67%	37.05				
<i>Dryophiops</i>	2	2	100.00%	32.52				
<i>Drysdalia</i>	3	3	100.00%	13.07				
<i>Duberria</i>	4	2	50.00%	11.07				
<i>Echinanthera</i>	6	2	33.33%	11.26				
<i>Echiopsis</i>	1	1	100.00%	22.10				
<i>Echis</i>	11	9	81.82%	21.06				
<i>Eirenis</i>	19	15	78.95%	18.13				
<i>Elaphe</i>	11	11	100.00%	41.83				
<i>Elapognathus</i>	2	1	50.00%	11.99				
<i>Elapomorphus</i>	2	1	50.00%	33.82				
<i>Elapotinus</i>	1	1	100.00%	32.08				
<i>Elapsoidea</i>	10	3	30.00%	25.00				
<i>Emydocephalus</i>	3	1	33.33%	19.48				

<i>Enhydris</i>	6	5	83.33%	18.70				
<i>Ephalophis</i>	1	1	100.00%	10.15				
<i>Epicrates</i>	5	5	100.00%	21.96				
<i>Epictia</i>	32	4	12.50%	36.88				
<i>Eristicophis</i>	1	1	100.00%	21.15				
<i>Erpeton</i>	1	1	100.00%	15.08				
<i>Erythrolamprus</i>	48	14	29.17%	30.61				
<i>Eryx</i>	12	9	75.00%	72.93				
<i>Eunectes</i>	4	2	50.00%	17.19				
<i>Euprepiophis</i>	3	3	100.00%	38.65				
<i>Exiliboa</i>	1	1	100.00%	97.05				
<i>Farancia</i>	2	2	100.00%	14.71				
<i>Fordonia</i>	1	1	100.00%	10.18				
<i>Furina</i>	5	2	40.00%	11.62				
<i>Garthius</i>	1	1	100.00%	29.89				
<i>Geophis</i>	49	7	14.29%	26.78 [§]				
<i>Gerarda</i>	1	1	100.00%	10.18				
<i>Gerrhopilus</i>	17	2	11.76%	57.15				
<i>Gloydius</i>	13	10	76.92%	34.41				
<i>Gomesophis</i>	1	1	100.00%	38.80				
<i>Gonionotophis</i>	15	6	40.00%	53.13				
<i>Gonyosoma</i>	6	6	100.00%	49.54				
<i>Grayia</i>	4	3	75.00%	41.87				
<i>Haitiophis</i>	1	1	100.00%	21.40				
<i>Haldea</i>	1	1	100.00%	19.06				
<i>Hapsidophrys</i>	3	3	100.00%	50.43				
<i>Hebius</i>	41	16	39.02%	27.83 [§]				
<i>Helicops</i>	16	5	31.25%	34.03				
<i>Hemachatus</i>	1	1	100.00%	29.96				
<i>Hemerophis</i>	2	2	100.00%	37.30 [§]				

<i>Hemiaspis</i>	2	2	100.00%	11.39				
<i>Hemibungarus</i>	1	1	100.00%	33.11				
<i>Hemirhagerrhis</i>	4	3	75.00%	30.19				
<i>Hemorrhais</i>	4	4	100.00%	14.47				
<i>Herpetoreas</i>	3	2	66.67%	20.50				
<i>Heterodon</i>	5	3	60.00%	37.20				
<i>Heteroliodon</i>	3	1	33.33%	17.75				
<i>Hierophis</i>	3	3	100.00%	9.83 ^s				
<i>Homalopsis</i>	5	1	20.00%	34.89				
<i>Homoroselaps</i>	2	1	50.00%	38.95				
<i>Hoplocephalus</i>	3	2	66.67%	6.63				
<i>Hormonotus</i>	1	1	100.00%	36.81				
<i>Hydrelaps</i>	1	1	100.00%	20.10				
<i>Hydrodynastes</i>	3	2	66.67%	17.02				
<i>Hydromorphus</i>	2	1	50.00%	17.34				
<i>Hydrophis</i>	46	33	71.74%	17.60				
<i>Hydrops</i>	3	1	33.33%	24.03				
<i>Hypnale</i>	3	3	100.00%	19.88				
<i>Hypsiglena</i>	9	8	88.89%	36.50				
<i>Hypsirhynchus</i>	8	6	75.00%	32.98				
<i>Hypsiscopus</i>	2	2	100.00%	20.75				
<i>Ialtris</i>	4	2	50.00%	17.16				
<i>Imantodes</i>	8	5	62.50%	49.64				
<i>Indotyphlops</i>	23	3	13.04%	87.98				
<i>Inyoka</i>	1	1	100.00%	36.81				
<i>Ithycyphus</i>	5	2	40.00%	12.82				
<i>Lachesis</i>	4	4	100.00%	25.98				
<i>Lampropeltis</i>	21	21	100.00%	25.85				
<i>Lamprophis</i>	7	4	57.14%	39.16				
<i>Langaha</i>	3	1	33.33%	35.51				

<i>Laticauda</i>	8	6	75.00%	30.58				
<i>Leioheterodon</i>	3	3	100.00%	32.17				
<i>Leptodeira</i>	12	11	91.67%	53.05				
<i>Leptophis</i>	11	3	27.27%	30.58				
<i>Leptotyphlops</i>	23	9	39.13%	49.38				
<i>Lepturophis</i>	1	1	100.00%	52.68				
<i>Letheobia</i>	28	4	14.29%	23.52				
<i>Liasis</i>	4	4	100.00%	51.44				
<i>Lichanura</i>	2	1	50.00%	70.95				
<i>Liodytes</i>	3	3	100.00%	21.50				
<i>Liopeltis</i>	6	1	16.67%	60.58				
<i>Liophidium</i>	10	8	80.00%	24.63				
<i>Liopholidophis</i>	8	8	100.00%	25.44				
<i>Liotyphlops</i>	10	1	10.00%	78.86				
<i>Loxocemus</i>	1	1	100.00%	99.48				
<i>Lycodon</i>	51	27	52.94%	60.97 [§]				
<i>Lycodonomorphus</i>	8	4	50.00%	38.07				
<i>Lycodryas</i>	10	8	80.00%	35.81				
<i>Lycophidion</i>	20	4	20.00%	58.36				
<i>Lygophis</i>	8	6	75.00%	32.66				
<i>Lytorhynchus</i>	6	1	16.67%	51.05				
<i>Macrelaps</i>	1	1	100.00%	29.26				
<i>Macropisthodon</i>	4	2	50.00%	57.61 [§]				
<i>Macroprotodon</i>	4	4	100.00%	15.00				
<i>Macrovipera</i>	2	2	100.00%	9.40				
<i>Madagascarophis</i>	4	3	75.00%	40.58				
<i>Madatyphlops</i>	13	2	15.38%	41.11				
<i>Magliophis</i>	2	2	100.00%	28.26				
<i>Malayopython</i>	2	2	100.00%	95.17				
<i>Malayotyphlops</i>	9	2	22.22%	44.68				

<i>Malpolon</i>	2	2	100.00%	31.33 [§]				
<i>Manolepis</i>	1	1	100.00%	23.11				
<i>Mastigodryas</i>	14	3	21.43%	24.35				
<i>Melanophidium</i>	3	1	33.33%	81.15				
<i>Micrelaps</i>	5	1	20.00%	67.13				
<i>Micropechis</i>	1	1	100.00%	11.99				
<i>Micropisthodon</i>	1	1	100.00%	21.84				
<i>Micruroides</i>	11	1	9.09%	32.19				
<i>Micrurus</i>	80	22	27.50%	31.01				
<i>Mimophis</i>	1	1	100.00%	45.48				
<i>Mitophis</i>	4	3	75.00%	16.62				
<i>Mixcoatlus</i>	3	3	100.00%	14.29				
<i>Montivipera</i>	8	6	75.00%	15.34				
<i>Morelia</i>	4	4	100.00%	42.26 [§]				
<i>Myriopholis</i>	20	7	35.00%	60.64				
<i>Myron</i>	3	1	33.33%	29.75				
<i>Myrrophis</i>	2	1	50.00%	25.07				
<i>Naja</i>	29	22	75.86%	27.58				
<i>Namibiana</i>	5	1	20.00%	63.84				
<i>Natriciteres</i>	5	1	20.00%	38.72				
<i>Natrix</i>	3	3	100.00%	32.08				
<i>Nerodia</i>	10	10	100.00%	18.95 [§]				
<i>Ninia</i>	10	2	20.00%	41.47 [§]				
<i>Notechis</i>	1	1	100.00%	7.69				
<i>Oligodon</i>	74	20	27.03%	58.99				
<i>Oocatochus</i>	1	1	100.00%	26.23				
<i>Opheodryas</i>	2	2	100.00%	20.83				
<i>Ophiophagus</i>	1	1	100.00%	26.84				
<i>Ophryacus</i>	1	1	100.00%	22.43				
<i>Opisthotropis</i>	21	4	19.05%	38.56				

<i>Oreocryptophis</i>	1	1	100.00%	61.70			
<i>Orientocoluber</i>	1	1	100.00%	13.71			
<i>Orthriophis</i>	4	4	100.00%	34.17			
<i>Ovophis</i>	6	4	66.67%	21.77 [§]			
<i>Oxybelis</i>	4	2	50.00%	21.12			
<i>Oxyrhabdium</i>	2	1	50.00%	69.76			
<i>Oxyrhopus</i>	14	8	57.14%	25.03			
<i>Oxyuranus</i>	3	3	100.00%	10.49			
<i>Pantherophis</i>	9	9	100.00%	27.76 [§]			
<i>Parahydrophis</i>	1	1	100.00%	10.15			
<i>Paraphimophis</i>	1	1	100.00%	8.32			
<i>Parastenophis</i>	1	1	100.00%	44.99			
<i>Parasuta</i>	6	2	33.33%	7.02 [§]			
<i>Pareas</i>	14	11	78.57%	52.39			
<i>Paroplocephalus</i>	1	1	100.00%	10.40			
<i>Phalotris</i>	16	5	31.25%	28.62			
<i>Philodryas</i>	22	13	59.09%	30.08 [§]			
<i>Philothamnus</i>	20	10	50.00%	52.42			
<i>Phimophis</i>	3	1	33.33%	8.32			
<i>Phisalixella</i>	4	2	50.00%	19.96			
<i>Phrynonax</i>	4	3	75.00%	32.65 [§]			
<i>Phyllorhynchus</i>	2	2	100.00%	40.20			
<i>Phytolopsis</i>	1	1	100.00%	46.05			
<i>Pituophis</i>	6	6	100.00%	17.27			
<i>Plagiopholis</i>	5	1	20.00%	54.34			
<i>Platyceps</i>	24	8	33.33%	14.15			
<i>Pliocercus</i>	3	2	66.67%	23.11 [§]			
<i>Polemon</i>	12	3	25.00%	20.73			
<i>Porthidium</i>	9	8	88.89%	13.43			
<i>Proatheris</i>	1	1	100.00%	28.76			

<i>Prosymna</i>	16	5	31.25%	39.59				
<i>Protobothrops</i>	14	12	85.71%	30.55				
<i>Psammodynastes</i>	2	2	100.00%	16.97				
<i>Psammophis</i>	34	26	76.47%	47.54				
<i>Psammophylax</i>	6	4	66.67%	40.99				
<i>Pseudalsophis</i>	6	2	33.33%	31.80				
<i>Pseudaspis</i>	1	1	100.00%	37.52				
<i>Pseudechis</i>	9	6	66.67%	19.96				
<i>Pseudelaphe</i>	1	1	100.00%	9.63				
<i>Pseudoboa</i>	6	3	50.00%	7.84				
<i>Pseudoboodon</i>	4	1	25.00%	69.68				
<i>Pseudocerastes</i>	3	3	100.00%	12.50				
<i>Pseudoeryx</i>	2	1	50.00%	24.03				
<i>Pseudoferania</i>	1	1	100.00%	29.75				
<i>Pseudoficimia</i>	1	1	100.00%	19.81				
<i>Pseudoleptodeira</i>	1	1	100.00%	50.12				
<i>Pseudonaja</i>	9	7	77.78%	16.71 [§]				
<i>Pseudorabdion</i>	14	2	14.29%	43.40 [§]				
<i>Pseudotomodon</i>	1	1	100.00%	13.76				
<i>Pseudotyphlops</i>	1	1	100.00%	37.30				
<i>Pseudoxenodon</i>	6	3	50.00%	43.74				
<i>Pseudoxyrhopus</i>	11	1	9.09%	17.75				
<i>Psomophis</i>	3	3	100.00%	39.33				
<i>Ptyas</i>	8	7	87.50%	53.08 [§]				
<i>Ptychophis</i>	1	1	100.00%	24.61				
<i>Python</i>	10	7	70.00%	73.62				
<i>Pythonodipsas</i>	1	1	100.00%	37.52				
<i>Ramphotyphlops</i>	21	2	9.52%	49.75				
<i>Regina</i>	2	2	100.00%	22.21 [§]				
<i>Rena</i>	12	3	25.00%	53.32				

<i>Rhabdophis</i>	21	10	47.62%	51.95 [§]				
<i>Rhachidelus</i>	1	1	100.00%	10.95				
<i>Rhadinaea</i>	21	2	9.52%	15.74				
<i>Rhagerhis</i>	1	1	100.00%	19.00				
<i>Rhamphiophis</i>	3	3	100.00%	23.28 [§]				
<i>Rhinechis</i>	1	1	100.00%	25.01				
<i>Rhinobothryum</i>	2	1	50.00%	32.50				
<i>Rhinocheilus</i>	1	1	100.00%	18.05				
<i>Rhinoleptus</i>	1	1	100.00%	94.80				
<i>Rhinophis</i>	16	8	50.00%	60.35 [§]				
<i>Rhinoplocephalus</i>	1	1	100.00%	6.46				
<i>Rhinotyphlops</i>	6	2	33.33%	44.55 [§]				
<i>Rodriguesophis</i>	3	1	33.33%	19.56				
<i>Salvadora</i>	6	3	50.00%	16.29				
<i>Sanzinia</i>	2	1	50.00%	73.67				
<i>Scaphiodontophis</i>	2	1	50.00%	54.33				
<i>Scaphiophis</i>	2	1	50.00%	60.32				
<i>Senticolis</i>	1	1	100.00%	39.74				
<i>Siagonodon</i>	4	1	25.00%	52.27				
<i>Sibon</i>	16	4	25.00%	12.63 [§]				
<i>Sibynomorphus</i>	11	5	45.45%	17.66 [§]				
<i>Sibynophis</i>	9	5	55.56%	39.86				
<i>Simalia</i>	7	6	85.71%	65.05 [§]				
<i>Simoselaps</i>	5	5	100.00%	16.38				
<i>Sinomicrurus</i>	5	3	60.00%	23.34				
<i>Sinonatrix</i>	4	3	75.00%	32.52				
<i>Siphlophis</i>	7	4	57.14%	22.90 [§]				
<i>Sistrurus</i>	2	2	100.00%	16.39				
<i>Sonora</i>	4	4	100.00%	12.57 [§]				
<i>Sordellina</i>	1	1	100.00%	29.32				

<i>Spalerosophis</i>	6	2	33.33%	8.91				
<i>Spilotes</i>	2	2	100.00%	55.94 [§]				
<i>Stenorrhina</i>	2	1	50.00%	41.03				
<i>Stichophanes</i>	1	1	100.00%	23.40				
<i>Stoliczka</i>	2	1	50.00%	60.10				
<i>Storeria</i>	4	3	75.00%	13.12				
<i>Subsessor</i>	1	1	100.00%	38.97				
<i>Suta</i>	4	2	50.00%	7.02 [§]				
<i>Sympholis</i>	1	1	100.00%	19.81				
<i>Tachymenis</i>	6	1	16.67%	13.76				
<i>Taeniophallus</i>	9	3	33.33%	13.04				
<i>Tantalophis</i>	1	1	100.00%	38.66				
<i>Tantilla</i>	62	7	11.29%	37.13 [§]				
<i>Telescopus</i>	14	4	28.57%	36.02				
<i>Tetracheilostoma</i>	3	2	66.67%	24.79				
<i>Thamnodynastes</i>	19	5	26.32%	14.20 [§]				
<i>Thamnophis</i>	34	27	79.41%	35.04				
<i>Thamnosophis</i>	6	6	100.00%	44.49				
<i>Thelotornis</i>	4	2	50.00%	42.24 [§]				
<i>Thermophis</i>	3	3	100.00%	15.27				
<i>Thrasops</i>	4	2	50.00%	29.14				
<i>Tomodon</i>	3	1	33.33%	16.37				
<i>Toxicocalamus</i>	12	2	16.67%	17.04 [§]				
<i>Toxicodryas</i>	2	2	100.00%	19.11				
<i>Trachischium</i>	5	1	20.00%	33.37				
<i>Trachyboa</i>	2	2	100.00%	50.27				
<i>Tretanorhinus</i>	4	1	25.00%	17.34				
<i>Trilepida</i>	14	1	7.14%	69.55				
<i>Trimeresurus</i>	50	39	78.00%	40.35 [§]				
<i>Trimorphodon</i>	7	1	14.29%	35.08				

<i>Tropidechis</i>	1	1	100.00%	7.69				
<i>Tropidoclonion</i>	1	1	100.00%	15.22				
<i>Tropidodipsas</i>	7	2	28.57%	21.13 [§]				
<i>Tropidodryas</i>	2	2	100.00%	29.97				
<i>Tropidolaemus</i>	5	2	40.00%	10.58				
<i>Tropidophis</i>	32	8	25.00%	65.05				
<i>Typhlophis</i>	1	1	100.00%	78.86				
<i>Typhlops</i>	49	30	61.22%	98.51				
<i>Ungaliophis</i>	2	2	100.00%	96.32				
<i>Uromacer</i>	3	3	100.00%	33.65				
<i>Uropeltis</i>	26	3	11.54%	16.68 [§]				
<i>Vermicella</i>	6	5	83.33%	21.00				
<i>Vipera</i>	22	12	54.55%	18.91				
<i>Virginia</i>	1	1	100.00%	12.58				
<i>Walterinnesia</i>	2	1	50.00%	14.38				
<i>Xenocalamus</i>	5	1	20.00%	11.70				
<i>Xenochrophis</i>	13	6	46.15%	49.87 [§]				
<i>Xenodermus</i>	1	1	100.00%	42.92				
<i>Xenodon</i>	12	11	91.67%	29.80				
<i>Xenopeltis</i>	2	1	50.00%	99.86				
<i>Xenophidion</i>	2	1	50.00%	50.48				
<i>Xenopholis</i>	3	2	66.67%	13.73				
<i>Xenotyphlops</i>	1	1	100.00%	105.02				
<i>Xerotyphlops</i>	4	2	50.00%	34.37				
<i>Zamenis</i>	5	5	100.00%	35.95 [§]				

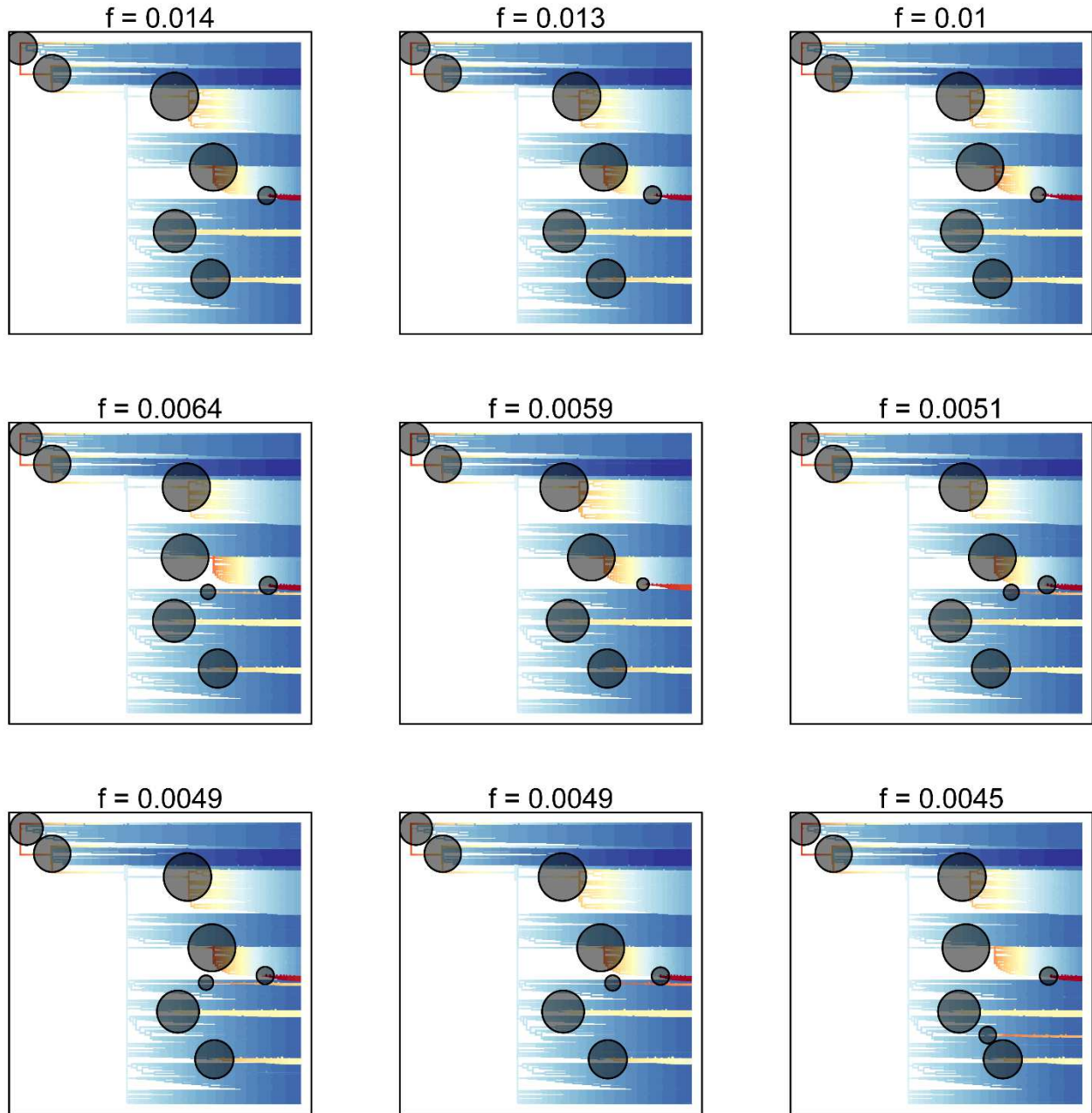
* Extinct.

†Families with sequences for at least one species, but classified as rogue taxon and pruned from the dataset of Chapter 1. *Enulius* represented in phylogeny by *Enulius* sp.

††Families with sequences for at least one species, but not sampled in Chapter 1.

§Taxa is paraphyletic. Values represent the species with the oldest age for genera with two species or the age of the clade with multiple individuals.

Figure S2.1. Phylorate plots for each of the shift configurations sets that account for 95% of probability of the data. Values above each plot represents posterior probability for each set of shift configurations. Black circles indicate locality of occurrence for a shift in diversification rates.



S2.1 File. Newick file for time-calibrated phylogeny for 1745 taxa representing 1652 snake species and 7 outgroup taxa displayed in Fig. 2.1.

((Heloderma_suspectum:24.428197,(Varanus_salvator:14.662977,Elgaria_multicarinata:14.662977)68:9.765219)100:10.511511,((Liolaemus_darwini:13.471084,Tropidurus_plica:13.471084)100:14.438031,(Calotes_versicolor:14.531123,Chamaeleo_calyptratus:14.531123)100:13.377991)56:7.030594)100:77.309296,((Typhlops_squamosus:85.359520,Liotyphlops_albirostris:85.359520)100:20.133045,(((Rhinoleptus_koniagui:65.254216,((Trilepida_macrolepis:48.832693,(Rena_humilis:39.679602,(Rena_sp:22.059215,(Rena_dissectus:9.796268,Rena_dulcis:9.796268)99:12.262948)100:17.620387)100:9.153091)100:10.144379,((Siagonodon_septemstriatus:35.239775,(Epictia_tenella:25.497557,(Epictia_goudotii:17.259669,(Epictia_columbi:17.149657,Epictia_magnamaculata:17.149657)100:0.110013)100:8.237888)100:9.742217)96:11.605161,((Tetracheilostoma_carlae:18.440705,Tetracheilostoma_breuili:18.440705)100:17.138774,(Mitophis_sp:22.867254,(Mitophis_asbolepis:12.063854,(Mitophis_leptipileptus:9.144941,Mitophis_pyrites:9.144941)78:2.918913)95:10.803400)100:12.712225)100:11.265457)43:12.132137)93:6.277143)100:9.136725,((Myriopholis_longicauda:37.866051,(Myriopholis_algeriensis:26.540662,((Myriopholis_boueti:8.455314,Myriopholis_rouxestevae:8.455314)100:9.312531,(Myriopholis_blanfordi:9.668420,(Myriopholis_macrorhyncha:6.908720,Myriopholis_adleri:6.908720)100:2.759700)96:8.099426)97:8.772816)38:11.325389)100:16.805616,(Namibiana_occidentalis:38.329076,(Leptotyphlops_kafubi:27.195166,((Leptotyphlops_pitmani:14.628826,(Leptotyphlops_merkeri:11.120258,Leptotyphlops_nigroterminus:11.120258)73:3.508568)100:3.430669,((Leptotyphlops_scutifrons:11.214006,Leptotyphlops_distanti:11.214006)100:3.541850,(Leptotyphlops_conjunctus:11.139074,(Leptotyphlops_sylvicolus:10.853404,Leptotyphlops_nigricans:10.853404)48:0.285670)99:3.616782)99:3.303638)30:9.135671)100:11.133910)100:16.342592)100:19.719274)100:8.687367,((Gerrhopilus_hedraeus:40.992038,Gerrhopilus_mirus:40.992038)48:25.659507,((Xenotyphlops_grandidieri:40.303671,Xenotyphlops_sp:40.303671)100:15.506457,((Rhinotyphlops_lalandei:31.883734,((Letheobia_feae:13.140799,Letheobia_newtoni:13.140799)99:9.804550,(Letheobia_episcopus:14.089660,Letheobia_simonii:14.089660)85:8.855689)100:8.938385)96:17.919028,((Xerotyphlops_socotranus:33.239695,Xerotyphlops_vermicularis:33.239695)100:11.854905,((Afrotyphlops_obtusus:25.309752,((Afrotyphlops_sp:5.046713,(Afrotyphlops_elegans:0.447137,Afrotyphlops_angolensis:0.447137)79:4.599576)100:11.453784,((Afrotyphlops_schlegelii:5.033105,Afrotyphlops_mucruso:5.033105)100:5.319601,((Afrotyphlops_bibronii:5.312936,Afrotyphlops_fornasinii:5.312936)93:1.896865,(Afrotyphlops_lineolatus:7.173422,(Afrotyphlops_congestus:7.129712,Afrotyphlops_punctatus:7.129712)78:0.043709)100:0.036379)92:3.142905)89:6.147791)85:8.809254)100:15.502186,(((Madatyphlops_andasibensis:19.595972,(Typhlops_pusillus:14.159263,(Madatyphlops_arenarius:10.081942,Typhlops_sp_2:10.081942)0:4.077321)0:5.436710)99:11.892050,((Amerotyphlops_reticulatus:18.518163,(Amerotyphlops_brongersmianus:8.142074,Amerotyphlops_tasymicris:8.142074)44:10.376090)100:8.351394,((Typhlops_caymanensis:20.007688,(Typhlops_arator:16.490813,((Typhlops_perimyachus:3.500407,Typhlops_anousius:3.500407)100:10.124347,(Typhlops_anchaurus:10.654139,(Typhlops_contorhinus:8.288608,(Typhlops_biminiensis:4.149501,Typhlops_notorachius:4.149501)91:4.139108)25:2.365531

)99:2.970615)96:2.866058)100:3.516875)100:4.147695,(((Typhlops_proancylops:16.363783,((Typhlops_geotomus:4.078598,Typhlops_monastus:4.078598)100:8.282174,(Typhlops_dominicanus:4.203853,Typhlops_guadeloupensis:4.203853)96:8.156919)100:4.003011)61:4.110304,(Typhlops_granti:16.302547,(Typhlops_catapontus:12.195839,(Typhlops_hypomethes:8.463775,(Typhlops_richardi:8.422897,(Typhlops_naugus:3.557031,Typhlops_platycephalus:3.557031)66:4.865866)99:0.040878)87:3.732064)99:4.106708)98:4.171540)99:3.645270,(((Typhlops_lumbricalis:10.512815,Typhlops_schwartzi:10.512815)42:9.313839,(Typhlops_eperopeus:9.566586,Typhlops_titanops:9.566586)100:10.260068)100:4.273379,(Typhlops_syntherus:22.627973,((Typhlops_sulcatus:7.533179,Typhlops_rostellatus:7.533179)36:15.091217,(Typhlops_capitulatus:22.589010,(Typhlops_jamaicensis:22.543549,(Typhlops_agoralionis:16.532678,(Typhlops_hectus:7.229915,Typhlops_sylleptor:7.229915)98:9.302763)100:6.010871)79:0.045461)93:0.035386)94:0.003577)87:1.472060)100:0.019324)88:0.036026)100:2.714175)100:4.618465)100:5.258066,((Argyrophis_sp:4.913246,(Argyrophis_diardii:1.461811,Argyrophis_muelleri:1.461811)0:3.451435)100:27.301641,((Malayotyphlops_ruber:6.919927,Malayotyphlops_luzonensis:6.919927)99:21.334362,(((Indotyphlops_pammeces:26.257489,Indotyphlops_braminus:26.257489)100:0.992399,(Indotyphlops_sp:24.345492,Indotyphlops_albiceps:24.345492)0:2.904396)100:0.979834,((Ramphotyphlops_lineatus:15.556461,(Ramphotyphlops_sp:8.134328,Ramphotyphlops_acuticaudus:8.134328)90:7.422133)60:12.631392,((Acutotyphlops_kunuaensis:1.761723,(Acutotyphlops_sp:1.163314,Acutotyphlops_subocularis:1.163314)0:0.598409)100:12.649972,(Anilios_proximus:13.771456,((Anilios_wiedii:5.609241,Anilios_polygrammicus:5.609241)52:8.098756,((Anilios_silvia:11.569913,((Anilios_nigrescens:5.341263,(Anilios_unguirostris:1.535867,(Anilios_guentheri:1.460971,Anilios_howi:1.460971)83:0.074896)89:3.805396)93:6.173158,((Anilios_kimberleyensis:4.251732,Anilios_troglodytes:4.251732)100:7.153858,(Anilios_ligatus:4.205839,Anilios_ganei:4.205839)99:7.199752)100:0.108830)93:0.055493)90:2.116287,((Anilios_bituberculatus:5.255997,(Anilios_grypus:2.241719,(Anilios_leptosomus:2.152270,Anilios_longissimus:2.152270)98:0.089449)100:3.014278)99:8.425244,((Anilios_ammodytes:5.479641,Anilios_diversus:5.479641)100:8.189964,((Anilios_bicolor:7.775570,(Anilios_splendidus:7.112442,Anilios_pinguis:7.112442)96:0.663129)100:2.263645,((Anilios_australis:2.495699,(Anilios_waitii:1.568749,Anilios_centralis:1.568749)97:0.926950)83:0.067957,(Anilios_hamatus:0.616697,(Anilios_endoterus:0.495481,Anilios_pilbarensis:0.495481)96:0.121216)99:1.946958)99:7.475560)98:3.630390)24:0.011636)76:0.004960)96:0.021796)99:0.063459)100:0.640239)63:13.776157)73:0.041869)80:0.024567)97:3.960598)91:4.531201)21:4.065850)92:4.282662)74:4.708162)100:6.007365)95:10.841418)100:16.426762)92:17.613708,((Anilios_scytale:72.100000,((Trachyboa_boulengeri:22.697348,Trachyboa_gularis:22.697348)100:28.944839,(Tropidophis_taczanowskyi:42.089188,((Tropidophis_greenwayi:22.043203,Tropidophis_haetianus:22.043203)100:14.143254,((Tropidophis_pardalis:14.463355,Tropidophis_wrighti:14.463355)99:15.378972,(Tropidophis_canus:25.085440,(Tropidophis_feicki:17.457124,Tropidophis_melanurus:17.457124)0:7.628316)0:4.756887)97:6.344130)98:5.902731)67:9.552998)100:20.457813)93:21.800000,(((Calabaria_reinhardtii:23.683052,(Candoia_aspera:16.934103,(Candoia_superciliosa:10.280185,Candoia_carinata:10.280185)86:6.653917)100:6.748949)49:49.134952,((Sanzinia_madagascariensis:25.675682,(Acr

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