

Ecography

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Supplementary material

Appendix 1. The number of point localities per species and region in this study.

Species	Africa	Asia	Oceania
<i>Varanus_acanthurus</i>			639
<i>Varanus_albigularis</i>	169		
<i>Varanus_bangonorum</i>		4	
<i>Varanus_baritji</i>			53
<i>Varanus_beccarii</i>		2	
<i>Varanus_bengalensis</i>		44	
<i>Varanus_boehmei</i>			2
<i>Varanus_brevicauda</i>			227
<i>Varanus_bushi</i>			32
<i>Varanus_caerulivirens</i>		1	
<i>Varanus_caudolineatus</i>			227
<i>Varanus_cerambonensis</i>		6	
<i>Varanus_cumingi</i>		4	
<i>Varanus_doreanus</i>			11
<i>Varanus_dumerilii</i>		11	
<i>Varanus_erechmii</i>			444
<i>Varanus_exanthematicus</i>	128		
<i>Varanus_finschi</i>			5
<i>Varanus_flavescens</i>		17	
<i>Varanus_giganteus</i>			343
<i>Varanus_gilleni</i>			297
<i>Varanus_glauerti</i>			59
<i>Varanus_glebopalma</i>			138
<i>Varanus_gouldii</i>			3115
<i>Varanus_griseus</i>	100	186	
<i>Varanus_indicus</i>		10	142
<i>Varanus_jobiensis</i>			17
<i>Varanus_keithhornei</i>			10
<i>Varanus_kingorum</i>			14
<i>Varanus_komodoensis</i>		6	
<i>Varanus_macraei</i>			1
<i>Varanus_marmoratus</i>		14	
<i>Varanus_melinus</i>		5	
<i>Varanus_mertensi</i>			203
<i>Varanus_mitchelli</i>			116
<i>Varanus_nebulosus</i>		38	
<i>Varanus_niloticus</i>	287		
<i>Varanus_nuchalis</i>		9	
<i>Varanus_olivaceus</i>		12	

<i>Varanus_palawanensis</i>	6	
<i>Varanus_panoptes</i>		290
<i>Varanus_pilbarensis</i>		29
<i>Varanus_prasinus</i>		41
<i>Varanus_primordius</i>		39
<i>Varanus_rainerguentheri</i>	2	
<i>Varanus_rosenbergi</i>		692
<i>Varanus_rudicollis</i>	10	
<i>Varanus_salvadorii</i>	1	7
<i>Varanus_salvator</i>	130	2
<i>Varanus_scalaris</i>		495
<i>Varanus_semiremex</i>		9
<i>Varanus_sparnus</i>		4
<i>Varanus_spenceri</i>		49
<i>Varanus_storri</i>		54
<i>Varanus_timorensis</i>	12	89
<i>Varanus_togianus</i>	2	
<i>Varanus_tristis</i>		831
<i>Varanus_varius</i>		4317
<i>Varanus_yemenensis</i>	7	
<i>Varanus_yuwonoi</i>	1	

Appendix 2. GenBank accession numbers for 60 sampled varanid lizards and the outgroups *Shinisaurus crocodilurus* and *Lanthanotus borneensis*.

Species	12S	16S	BDNF	CMOS	cytb	ND2	ND4	NT3	R35	RAG1	RAG2
<i>Shinisaurus crocodilurus</i>	NC_005959	AB080274	GU457857	AY099976	NC_005959	NC_005959	NC_005959	GU456013	HQ876341	AY662610	--
<i>Lanthanotus borneensis</i>	AF004475	--	GU457859	AY662564	--	AY662537	--	GU456015	--	AY662609	--
<i>Varanus acanthurus</i>	AF004477	--	GU457860	--	--	EU920057	DQ525104	GU456016	HQ876342	GU457983	--
<i>Varanus albigularis</i>	AF004479	--	--	--	--	JN673342	--	JQ844940	--	--	--
<i>Varanus bangonorum</i>	--	--	--	--	--	KM888681	--	--	--	--	--
<i>Varanus baritji</i>	--	--	--	--	--	AF407489	DQ525106	JQ844906	--	--	--
<i>Varanus beccarii</i>	--	EF193664	--	--	--	AF407490	--	--	--	--	--
<i>Varanus bengalensis</i>	GU219858	GQ398146	--	--	EU621813	AF407491	--	--	--	--	--
<i>Varanus boehmei</i>	--	EF193665	--	--	--	--	--	--	--	--	--
<i>Varanus brevicauda</i>	AF004483	--	--	--	--	AY264940	DQ525116	JQ844907	--	--	--
<i>Varanus bushi</i>	--	--	JQ845001	--	--	EU920129	--	JQ844908	--	--	--
<i>Varanus caerulivirens</i>	--	EF193667	--	--	--	--	--	--	--	--	--
<i>Varanus caudolineatus</i>	--	--	--	--	--	EU920058	DQ631876	JQ844909	--	--	--
<i>Varanus cerambonensis</i>	--	EF193653	--	--	--	--	--	--	--	--	--
<i>Varanus cumingi</i>	--	--	--	--	--	AF407523	--	--	--	--	--
<i>Varanus doreanus</i>	--	EF193654	--	--	--	AF407493	--	JQ844941	--	--	--
<i>Varanus dumerilii</i>	GU219861	--	--	--	--	AF407494	--	JQ844942	DQ119619	AY487354	DQ11963 7
<i>Varanus eremius</i>	AF004487	--	--	--	--	EU920060	DQ525114	JQ844910	--	--	--
<i>Varanus exanthematicus</i>	--	--	GU457861	JN090143	AB301968	AF407496	DQ525176	GU456017	JF804611	GU457984	--
<i>Varanus finschi</i>	--	EF193669	--	--	--	--	--	--	--	--	--
<i>Varanus flavescens</i>	--	--	--	--	--	AF407497	--	--	--	--	--
<i>Varanus giganteus</i>	AF004489	--	--	--	--	EU920062	DQ525160	JQ844912	--	--	--
<i>Varanus gilleni</i>	--	--	--	--	--	EU920063	DQ631872	JQ844913	--	--	--

<i>Varanus glauerti</i>	--	--	--	--	--	EU920064	DQ525122	JQ844914	--	--	--
<i>Varanus glebopalma</i>	--	--	--	--	--	AF407501	DQ525129	JQ844915	--	--	--
<i>Varanus gouldii</i>	AF004491	--	--	--	--	EU920082	DQ525146	JQ844916	--	--	--
<i>Varanus griseus</i>	--	--	--	--	--	U71334	--	--	--	AY662608	--
<i>Varanus indicus</i>	AF004493	EF193655	--	--	--	AF407506	DQ525167	JQ844917	--	--	--
<i>Varanus jobiensis</i>	--	EF193656	--	--	--	AF407507	--	JQ844938	--	--	--
<i>Varanus keithhornei</i>	--	EF193676	--	--	--	EU920084	DQ525168	JQ844918	--	--	--
<i>Varanus kingorum</i>	--	--	--	--	--	EU920085	DQ525170	JQ844919	--	--	--
<i>Varanus komodoensis</i>	AB080275	AB080275	--	--	AB080276	AB080275	DQ525173	JQ844920	--	--	--
<i>Varanus macraei</i>	--	EF193683	--	--	--	--	--	--	--	--	--
<i>Varanus marmoratus</i>	--	EF193690	--	--	--	--	--	--	--	--	--
<i>Varanus melinus</i>	--	EF193657	--	--	--	AF407511	--	--	--	--	--
<i>Varanus mertensi</i>	AF004497	--	--	--	--	EU920087	DQ525158	JQ844921	--	--	--
<i>Varanus mitchelli</i>	AF004499	--	--	--	--	EU920089	DQ525128	JQ844922	--	--	--
<i>Varanus nebulosus</i>	--	--	--	--	--	AF407492	--	--	--	--	--
<i>Varanus niloticus</i>	NC_008778	NC_008778	--	--	NC_008778	NC_008778	DQ525177	JQ844923	--	--	--
<i>Varanus nuchalis</i>	--	--	--	--	--	JX677715	--	--	--	--	--
<i>Varanus olivaceus</i>	AF004503	--	--	--	--	AF407515	--	--	--	--	--
<i>Varanus palawanensis</i>	--	--	--	--	--	JX677697	--	--	--	--	--
<i>Varanus panoptes</i>	--	EF193685	--	--	--	EU920106	DQ525152	JQ844925	--	--	--
<i>Varanus pilbarensis</i>	AF004505	--	--	--	--	AF407518	DQ525124	JQ844926	--	--	--
<i>Varanus prasinus</i>	AF004507	EF193687	--	EU366456	--	AF407519	DQ525172	JQ844927	--	--	--
<i>Varanus primordius</i>	--	--	--	--	--	AF407520	DQ525112	JQ844928	--	--	--
<i>Varanus rainerguentheri</i>	--	EF193659	--	--	--	--	--	--	--	--	--
<i>Varanus rosenbergi</i>	--	--	--	AF039480	--	AY264941	DQ525154	JQ844929	--	--	--
<i>Varanus rudicollis</i>	GU219862	--	--	--	EU145739	AF407521	--	JQ844943	--	--	--
<i>Varanus salvadorii</i>	AF004509	--	--	--	--	AF407522	DQ525174	JQ844930	--	--	--

<i>Varanus salvator</i>	GU219879	NC_010974	EU402618	AF435017	EU621812	NC_010974	DQ525175	EU390902	JN568500	EU402828	--
<i>Varanus scalaris</i>	--	--	--	--	--	EU920110	DQ525134	JQ844932	--	--	--
<i>Varanus semiremex</i>	--	--	--	--	--	EU920111	DQ525126	JQ844933	--	--	--
<i>Varanus sparnus</i>	--	--	--	--	--	--	KP076423	--	--	--	--
<i>Varanus spenceri</i>	--	--	--	--	--	EU920112	DQ525156	JQ844934	--	--	--
<i>Varanus storri</i>	--	--	--	--	--	EU920115	DQ631869	JQ844935	--	--	--
<i>Varanus timorensis</i>	AF004513	--	--	--	--	AF407532	DQ525136	JQ844936	--	--	--
<i>Varanus togianus</i>	--	--	--	--	--	AF407524	--	--	--	--	--
<i>Varanus tristis</i>	AF004515	--	--	--	--	EU920119	DQ525120	JQ844937	--	--	--
<i>Varanus varius</i>	AF004517	--	--	--	--	EU920127	DQ525161	JQ844939	--	--	--
<i>Varanus yemenensis</i>	--	--	--	--	--	JN673354	--	--	--	--	--
<i>Varanus yuwonoi</i>	--	EF193658	--	--	--	AF407535	--	--	--	--	--

Appendix 3. The partitions and models used in the BEAST analyses are described below. We first list the gene and codon position type that each character in the combined matrix belongs to. Then we list the best-fitting sets of partitions and the best-fitting model of evolution for each partition (as selected by PartitionFinder).

Partitions

12S = 1 - 1395;

16S = 1396 - 3365;

BDNF_pos1 = 3366 - 4079\3;

BDNF_pos2 = 3367 - 4079\3;

BDNF_pos3 = 3368 - 4079\3;

cmos_pos1 = 4080 - 4982\3;

cmos_pos2 = 4081 - 4982\3;

cmos_pos3 = 4082 - 4982\3;

cytb_pos1 = 4983 - 5982\3;

cytb_pos2 = 4984 - 5982\3;

cytb_pos3 = 4985 - 5982\3;

ND2_pos1 = 5983 - 6942\3;

ND2_pos2 = 5984 - 6942\3;

ND2_pos3 = 5985 - 6942\3;

ND4_pos1 = 6943 - 7638\3;

ND4_pos2 = 6944 - 7638\3;

ND4_pos3 = 6945 - 7638\3;

NT3_pos1 = 7639 - 8313\3;

NT3_pos2 = 7640 - 8313\3;

NT3_pos3 = 7641 - 8313\3;

R35_pos1 = 8314 - 9081\3;

R35_pos2 = 8315 - 9081\3;

R35_pos3 = 8316 - 9081\3;

RAG1_pos1 = 9082 - 11781\3;

RAG1_pos2 = 9083 - 11781\3;

RAG1_pos3 = 9084 - 11781\3;

RAG2_pos1 = 11782 - 12501\3;

RAG2_pos2 = 11783 - 12501\3;

RAG2_pos3 = 11784 - 12501\3

Selected Sets of Partitions and Models

1 | GTR+G| 1-1395, 1396-3365, 4983-5982\3

2 | HKY| 3366-4079\3, 3367-4079\3, 7640-8313\3

3 | K80| 3368-4079\3, 4082-4982\3, 8316-9081\3, 9084-11781\3

4 | HKY+G| 4080-4982\3, 7639-8313\3, 9082-11781\3, 11782-12501\3

5 | HKY| 4081-4982\3, 7641-8313\3, 8314-9081\3, 8315-9081\3, 9083-11781\3,
11783-12501\3, 11784-12501\3

6 | GTR+I+G| 4984-5982\3, 5984-6942\3, 6944-7638\3

7 | GTR+G| 4985-5982\3, 5985-6942\3, 6945-7638\3

8 | GTR+I+G| 5983-6942\3, 6943-7638\3

Appendix 4. The phylogenetic tree provided in nexus format for 60 species of varanid lizards and two outgroups estimated in this study using BEAST.

#NEXUS

begin trees;

tree TREE1 = [&R]

(Shinisaurus_crocodilurus:79.935198,(Lanthanotus_borneensis:69.21967,((((((((((Varanus_acanthurus:4.987539,Varanus_baritji:4.987539):3.55462,Varanus_storri:8.542159):4.632903,(Varanus_kingorum:8.874122,Varanus_primordius:8.874122):4.300941):3.457216,((Varanus_bushi:2.216907,Varanus_gilleni:2.216907):4.682784,Varanus_caudolineatus:6.899691):9.732587):2.226231,(Varanus_brevicauda:10.772575,(Varanus_eremius:8.030445,Varanus_sparnus:8.030445):2.74213):8.085934):0.978932,(((Varanus_glauerti:7.619152,Varanus_tristis:7.619152):5.452187,(((Varanus_mitchelli:5.79467,Varanus_semiremex:5.79467):3.026066,Varanus_timorensis:8.820736):2.768976,Varanus_scalaris:11.589712):1.481626):2.324039,Varanus_pilbarensis:15.395377):1.590665,Varanus_glebopalma:16.986043):2.851398):2.363633,(((Varanus_giganteus:11.761509,((Varanus_gouldii:6.9461,Varanus_panoptes:6.9461):2.486997,Varanus_rosenbergi:9.433098):2.328411):1.945027,Varanus_spenceri:13.706536):0.627904,Varanus_mertensi:14.33444):6.865263,((Varanus_komodoensis:11.35883,Varanus_varius:11.35883):4.599439,Varanus_salvadorii:15.958269):5.241434):1.001371):3.145692,(((Varanus_bengalensis:0.964739,Varanus_nebulosis:0.964739):9.341784,Varanus_flavescens:10.306523):3.973414,Varanus_dumerilii:14.279937):2.721365,((Varanus_marmoratus:4.113128,Varanus_rudicollis:4.113128):6.147185,(((Varanus_salvator:1.104959,(Varanus_bangonorum:1.025778,Varanus_togianus:1.025778):0.079181):0.113696,Varanus_nuchalis:1.218655):0.138303,Varanus_palawanensis:1.356958):1.

039909,Varanus_cumingi:2.396867):7.863445):6.74099):8.345463):1.453077,(((Varanus_beccarii:2.686981,Varanus_keithhornei:2.686981):3.349904,(Varanus_boehmei:2.141841,(Varanus_macraei:0.537127,Varanus_prasinus:0.537127):1.604714):3.895044):11.094867,(((Varanus_caerulivirens:1.924655,Varanus_yuwonoi:1.924655):1.867838,(Varanus_doreanus:2.653751,Varanus_finschi:2.653751):1.138742):1.312973,Varanus_jobiensis:5.105466):0.754802,(((Varanus_cerambonensis:0.448645,Varanus_melinus:0.448645):0.684852,Varanus_indicus:1.133497):0.781042,Varanus_rainerguentheri:1.91454):3.945729):11.271484):3.710558,Varanus_olivaceus:20.84231):5.957532):4.979496,(((Varanus_albigularis:5.660507,Varanus_yemenensis:5.660507):8.840361,Varanus_exanthematicus:14.500868):8.324679,Varanus_niloticus:22.825547):4.125587,Varanus_griseus:26.951134):4.828205):37.440332):10.715528);
end;

Appendix 5. Data on niche characteristics for temperature (T) and precipitation (P) for 70 species (all species with >1 localities, including those not in the phylogeny), including the number of georeferenced localities per species (N), mean Bio1, mean Bio12, the mean within-locality niche breadths for each species (WL-NB), species niche breadths for temperature and precipitation (T-SNB, P-SNB), the ratio of within-locality niche breadth to species niche breadth averaged across localities for temperature and precipitation (T-WLS, P-WLS), and the niche position variance for temperature and precipitation (T-NPV, P-NPV).

Species	N	Bio1	Bio12	T-WL-NB	P-WL-NB	TNB	PNB	T-WLS	P-WLS	T-NPV	P-NPV
<i>Varanus acanthurus</i>	639	25.5	559.2	26.6	345.5	38.8	1407	0.685	0.246	3.560	16090.605
<i>Varanus albigularis</i>	169	23.5	829.6	19.9	391.6	42.6	753	0.468	0.520	24.569	6947.816
<i>Varanus bangonorum</i>	4	26.7	2569.0	10.0	1190.3	10.9	1729	0.917	0.688	0.205	34875.729
<i>Varanus baritji</i>	53	27.1	1333.2	20.9	849.7	25.0	1036	0.836	0.820	0.231	1596.699
<i>Varanus beccarii</i>	2	26.5	2212.5	9.4	530.0	9.4	543	1.000	0.976	0.000	12.500
<i>Varanus bengalensis</i>	44	25.6	1086.2	21.1	466.9	46.4	1518	0.456	0.308	7.034	49999.964
<i>Varanus bitatawa</i>	4	25.2	2901.8	13.4	1072.0	16.5	1322	0.812	0.811	1.848	17216.250
<i>Varanus boehmei</i>	2	26.5	2782.5	7.5	444.0	8.8	514	0.847	0.864	0.911	2450.000
<i>Varanus brevicauda</i>	227	24.5	321.3	29.3	163.1	38.9	477	0.752	0.342	3.869	1382.997
<i>Varanus bushi</i>	32	25.0	345.2	29.4	180.0	33.1	239	0.889	0.753	0.904	129.367
<i>Varanus caudolineatus</i>	227	21.5	253.5	30.4	89.2	37.3	450	0.816	0.198	3.035	430.370
<i>Varanus cerambonensis</i>	6	23.9	2450.3	8.3	531.0	15.5	792	0.533	0.670	6.709	13927.667
<i>Varanus cumingi</i>	4	26.2	2083.8	11.3	712.5	15.6	1465	0.723	0.486	3.202	27677.083
<i>Varanus dalubhasa</i>	6	26.6	2974.3	10.9	997.7	13.2	1350	0.827	0.739	0.630	18143.700

<i>Varanus doreanus</i>	11	24.5	3086.3	10.6	523.0	19.2	1074	0.551	0.487	7.417	28372.664
<i>Varanus dumerilii</i>	11	26.2	2330.8	11.1	680.9	16.6	1090	0.669	0.625	3.290	12227.291
<i>Varanus eremius</i>	444	22.9	274.3	29.9	118.4	38.7	466	0.773	0.254	4.158	982.308
<i>Varanus exanthematicus</i>	128	26.2	923.6	16.4	449.3	39.9	753	0.412	0.597	8.088	7514.588
<i>Varanus finschi</i>	5	22.8	3145.8	10.4	614.2	18.6	1601	0.558	0.384	12.991	100641.375
<i>Varanus flavescens</i>	17	24.6	1489.7	28.2	925.4	39.4	1582	0.715	0.585	1.873	64269.399
<i>Varanus giganteus</i>	343	21.3	274.5	32.4	80.0	38.8	530	0.834	0.151	1.937	466.460
<i>Varanus gilleni</i>	297	22.0	265.6	31.2	96.0	38.5	430	0.810	0.223	3.523	1139.173
<i>Varanus glauerti</i>	59	27.5	1077.9	18.0	776.9	28.4	1017	0.632	0.764	0.597	9857.272
<i>Varanus glebopalma</i>	138	27.3	1193.5	19.6	796.9	30.8	1038	0.637	0.768	0.569	7314.979
<i>Varanus gouldii</i>	3115	20.5	470.4	28.1	172.2	42.1	1299	0.668	0.133	7.384	15746.425
<i>Varanus griseus</i>	286	22.4	448.7	25.8	234.6	52.1	753	0.496	0.312	14.977	13213.655
<i>Varanus hamersleyensis</i>	7	24.7	338.1	30.0	172.3	33.2	211	0.903	0.817	1.046	191.286
<i>Varanus indicus</i>	152	25.8	2625.7	10.3	570.1	28.3	2801	0.364	0.204	4.297	60525.373
<i>Varanus jobiensis</i>	17	24.6	3090.5	10.7	439.2	17.8	1313	0.599	0.335	5.295	44821.945
<i>Varanus keithhornei</i>	10	24.8	1528.4	14.9	950.1	19.0	1108	0.784	0.857	1.196	2207.803
<i>Varanus kingorum</i>	14	27.4	656.8	25.4	433.0	27.5	570	0.925	0.760	0.687	1076.951
<i>Varanus komodoensis</i>	6	25.4	1544.5	13.3	639.2	15.4	792	0.866	0.807	0.977	11916.742
<i>Varanus kordensis</i>	2	26.9	2617.0	8.0	172.0	8.1	221	0.988	0.778	0.000	1200.500
<i>Varanus mabitang</i>	3	25.5	3566.3	9.3	1375.0	11.4	1526	0.813	0.901	1.373	5149.000
<i>Varanus marmoratus</i>	14	25.0	2623.1	12.6	1020.1	17.3	2141	0.731	0.476	1.787	53434.798

<i>Varanus melinus</i>	5	24.2	2157.4	9.8	436.4	13.5	549	0.723	0.795	2.924	3160.325
<i>Varanus mertensi</i>	203	27.2	1171.2	20.3	761.3	34.0	1124	0.597	0.677	1.528	10017.420
<i>Varanus mitchelli</i>	116	27.3	1131.4	21.9	736.2	31.9	1108	0.687	0.664	1.306	9292.472
<i>Varanus nebulosus</i>	38	26.6	2335.7	11.9	740.2	26.6	3698	0.446	0.200	1.774	58855.150
<i>Varanus nesterovi</i>	8	20.3	376.0	39.2	211.0	49.0	467	0.799	0.452	10.351	2810.839
<i>Varanus niloticus</i>	287	24.1	1057.3	18.0	456.7	42.1	2240	0.428	0.204	17.026	21355.401
<i>Varanus nuchalis</i>	9	26.8	2065.7	10.5	619.9	15.8	1021	0.667	0.607	2.006	14076.611
<i>Varanus obor</i>	3	26.5	1809.3	9.5	364.3	10.0	418	0.953	0.872	0.061	264.250
<i>Varanus olivaceus</i>	12	26.3	3382.5	11.3	1130.4	12.7	1408	0.888	0.803	0.085	2483.051
<i>Varanus ornatus</i>	20	23.9	1878.4	12.3	612.7	22.8	1352	0.541	0.453	3.804	19244.289
<i>Varanus palawanensis</i>	6	26.9	1840.8	10.2	671.2	11.2	976	0.914	0.688	0.146	3230.142
<i>Varanus panoptes</i>	290	25.8	894.8	23.4	545.5	36.9	1298	0.635	0.420	4.393	29848.143
<i>Varanus pilbarensis</i>	29	25.7	329.7	28.9	183.0	34.1	243	0.847	0.753	1.459	187.777
<i>Varanus prasinus</i>	41	25.3	2410.6	11.1	529.3	19.4	1260	0.572	0.420	3.594	37830.198
<i>Varanus primordius</i>	39	27.2	1277.8	21.4	814.1	25.6	973	0.836	0.837	0.069	3092.989
<i>Varanus rainerguentheri</i>	2	26.4	2358.5	8.5	307.0	9.2	375	0.924	0.819	0.245	2312.000
<i>Varanus rasmusseni</i>	2	26.6	1834.0	9.1	156.5	9.3	162	0.973	0.966	0.031	15.125
<i>Varanus reisingeri</i>	5	26.6	2376.6	7.3	320.4	8.4	393	0.874	0.815	0.181	227.675
<i>Varanus rosenbergi</i>	692	15.4	895.9	20.1	215.2	35.6	563	0.566	0.382	1.457	6828.544
<i>Varanus rudicollis</i>	10	26.0	2208.8	12.1	745.0	16.5	1444	0.730	0.516	1.997	10312.733
<i>Varanus salvadorii</i>	8	26.3	2505.5	11.3	624.6	14.4	1863	0.782	0.335	0.250	121585.603

<i>Varanus salvator</i>	132	26.3	2182.2	11.5	679.7	30.8	2601	0.373	0.261	3.788	39015.829
<i>Varanus samarensis</i>	2	25.8	2736.0	10.2	547.0	10.7	1015	0.953	0.539	0.020	109512.000
<i>Varanus scalaris</i>	495	27.2	1313.0	19.3	837.0	29.3	1169	0.660	0.716	0.492	8542.209
<i>Varanus semiremex</i>	9	24.7	1331.7	17.1	784.4	23.6	1278	0.726	0.614	4.349	23208.611
<i>Varanus similis</i>	11	25.9	1283.6	18.0	784.4	27.1	984	0.663	0.797	4.094	10552.614
<i>Varanus sparnus</i>	4	26.9	607.5	20.2	460.5	21.1	469	0.956	0.982	0.027	19.500
<i>Varanus spenceri</i>	49	25.3	429.2	28.2	250.3	32.0	403	0.882	0.621	1.387	1196.873
<i>Varanus spinulosus</i>	3	26.0	3256.0	8.3	591.7	10.2	839	0.810	0.705	1.051	16668.750
<i>Varanus storri</i>	54	26.1	694.9	25.0	440.6	31.8	904	0.787	0.487	3.298	3523.384
<i>Varanus timorensis</i>	101	26.3	1417.9	16.6	829.8	34.6	1790	0.479	0.464	3.166	16709.091
<i>Varanus togianus</i>	2	21.8	1664.0	10.1	256.5	11.8	320	0.852	0.802	1.531	2016.125
<i>Varanus tristis</i>	831	23.2	660.5	26.6	357.8	39.9	1842	0.668	0.194	8.388	24111.400
<i>Varanus varius</i>	4317	17.0	1111.2	23.5	250.2	39.7	1965	0.591	0.127	2.257	10966.717
<i>Varanus yemenensis</i>	7	28.4	165.6	18.7	82.3	24.5	306	0.764	0.462	3.791	907.119

Appendix 6

Figure A1. Point localities of varanid lizards in this study, showing the distribution range globally. Black solid lines indicate the boundaries among the continents. There are 44 species on Oceania, 35 on Asia, and 5 on Africa. One species (*V. griseus*) occurred on both Asia and Africa; and 4 species (*V. indicus*, *V. salvadorii*, *V. salvator*, and *V. timorensis*) occurred on both Asia and Oceania. No species occurred on all three continents. Different colors indicate different species.

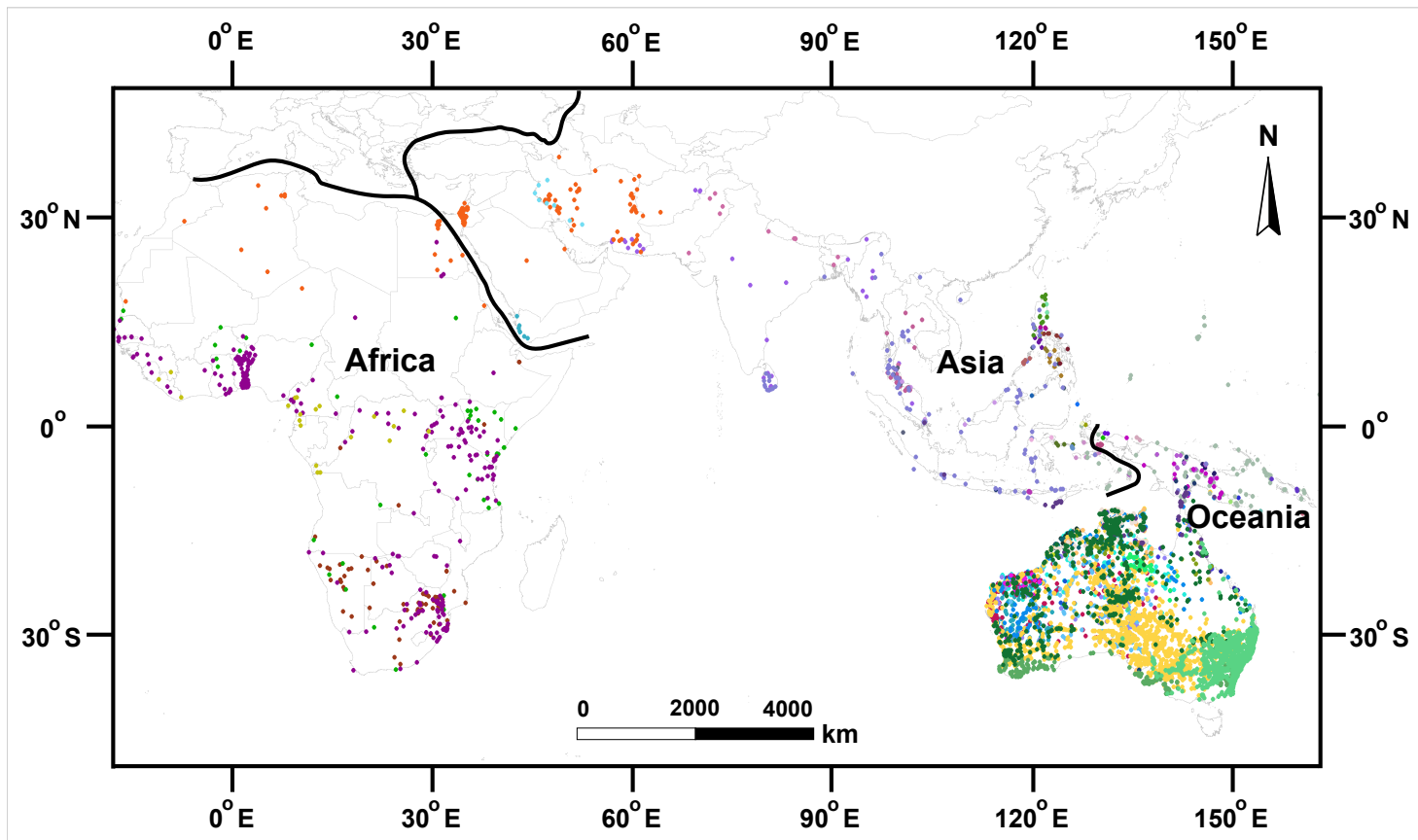


Figure A2. Relationships between mean within-locality niche breadths of species (WL-NB; for temperature: T, and precipitation: P) and species niche breadths. Results are shown both across continents and globally, and are shown using the raw data for ease of interpretation. PGLS results are shown in Table 3.

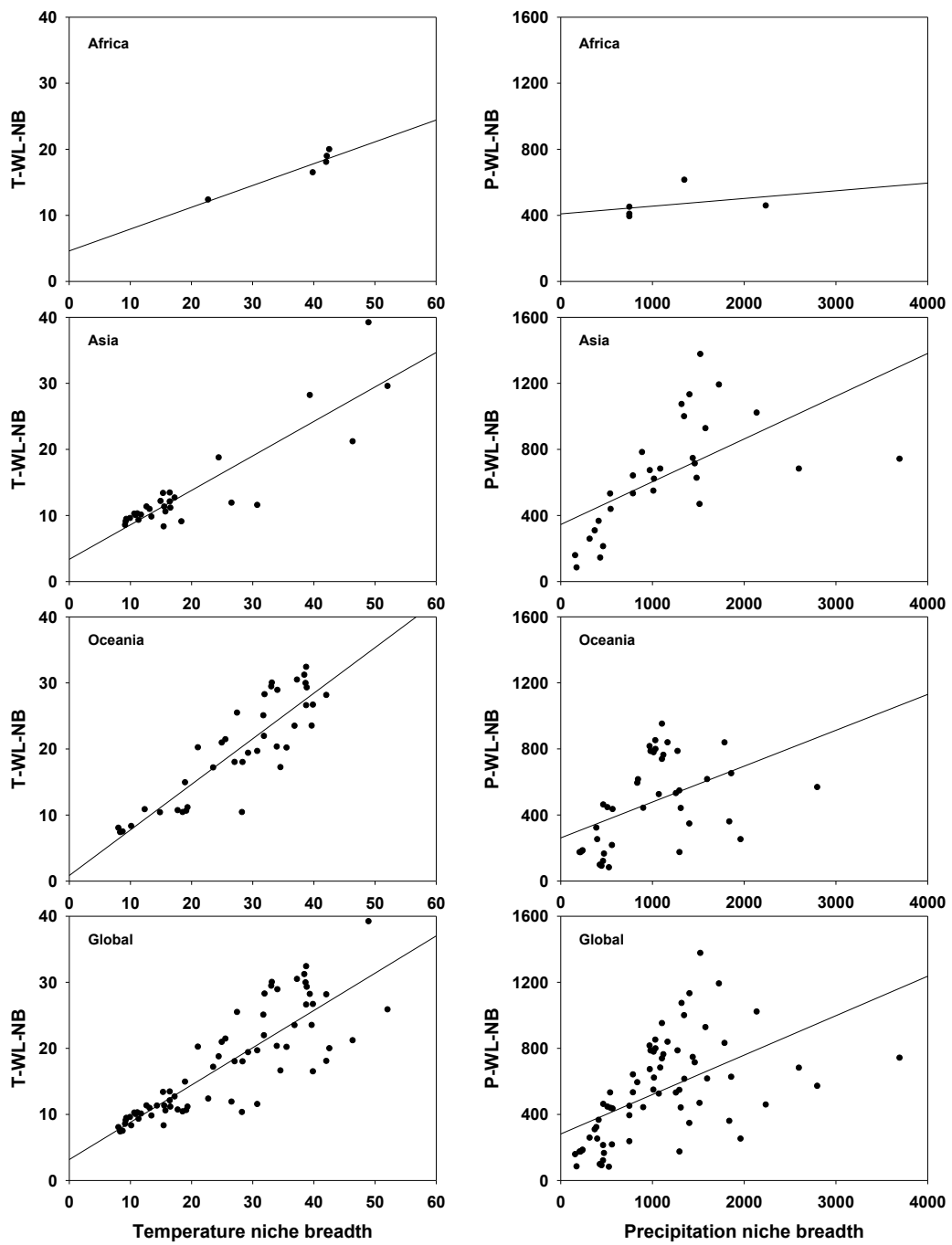


Figure A3. Relationship between WLS ratio and species niche breadths, shown using the raw data for ease of interpretation. PGLS results are shown in Table 3.

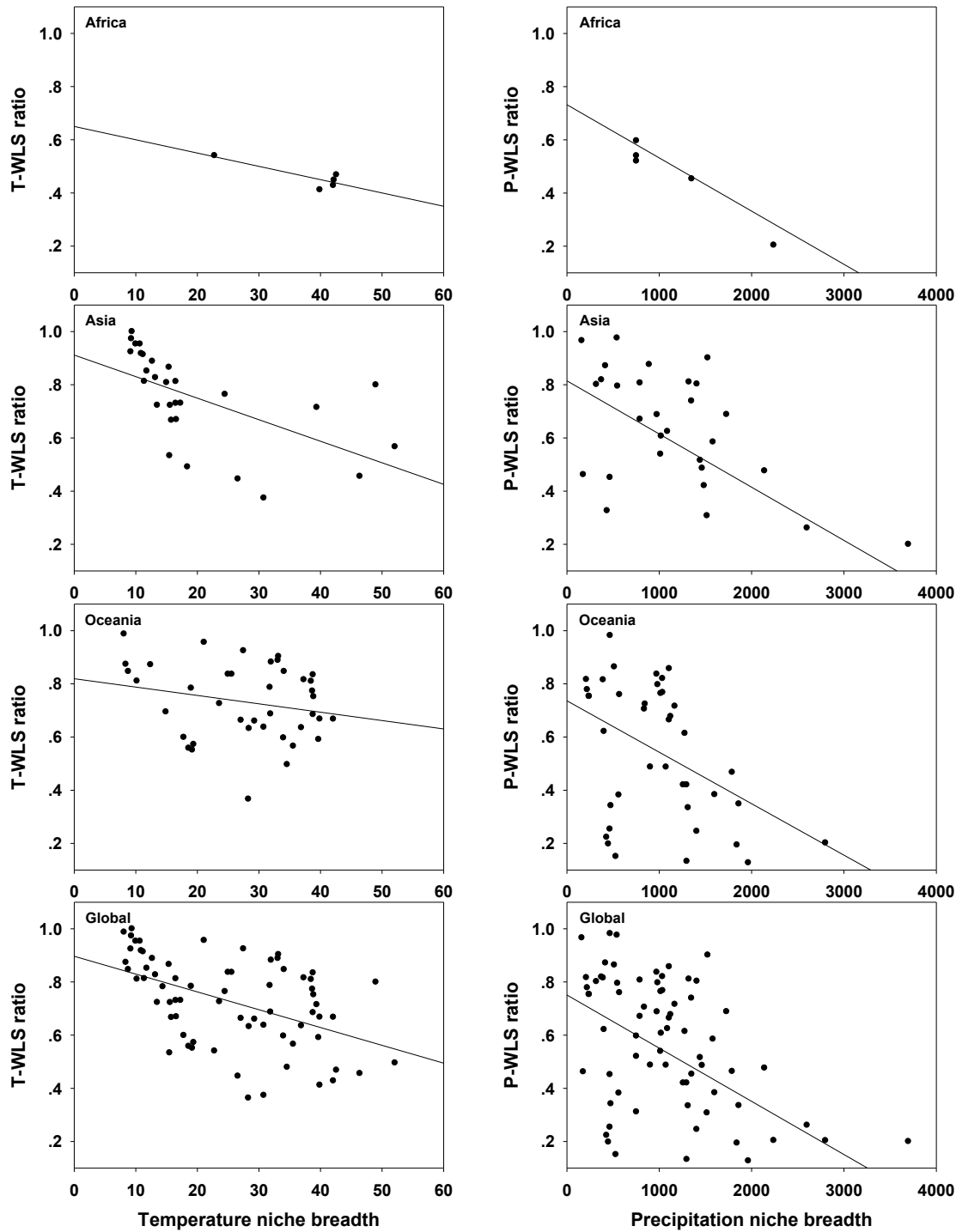


Figure A4. Relationship between NPV and species niche breadths, shown using the raw data for ease of interpretation. PGLS results are shown in Table 3.

