

Supplementary file 1

The genome of the relict Earless Monitor Lizard, *Lanthanotus borneensis*, and the Toxicofera hypothesis

Magnus Wolf, Axel Janke, Krister T. Smith

This PDF file includes:

Figure S1 to S2

- Figure S1: Repeat landscape of the Earless Monitor Lizard (*Lanthanotus borneensis*) genome assembly.
- Figure S2: Divergence time estimates for Squamata over the last 300 Mya based on nine calibration points and the LSD2 method from IQTree.
- Figure S3: Bootstrapped population history of *Lanthanotus borneensis* using 34 bins ~ (-p 4+10*2+4+6).
- Figure S4: Bootstrapped population history of *Lanthanotus borneensis* using 24 bins ~ (-p 4+10*2+4+6)

Table S1 to S2

- Table S1. Genomic data featured in the phylogenetic analysis of this study.
- Table S2. Additional calibration points used for divergence time estimates in Figure S2.

Supplementary Figures:

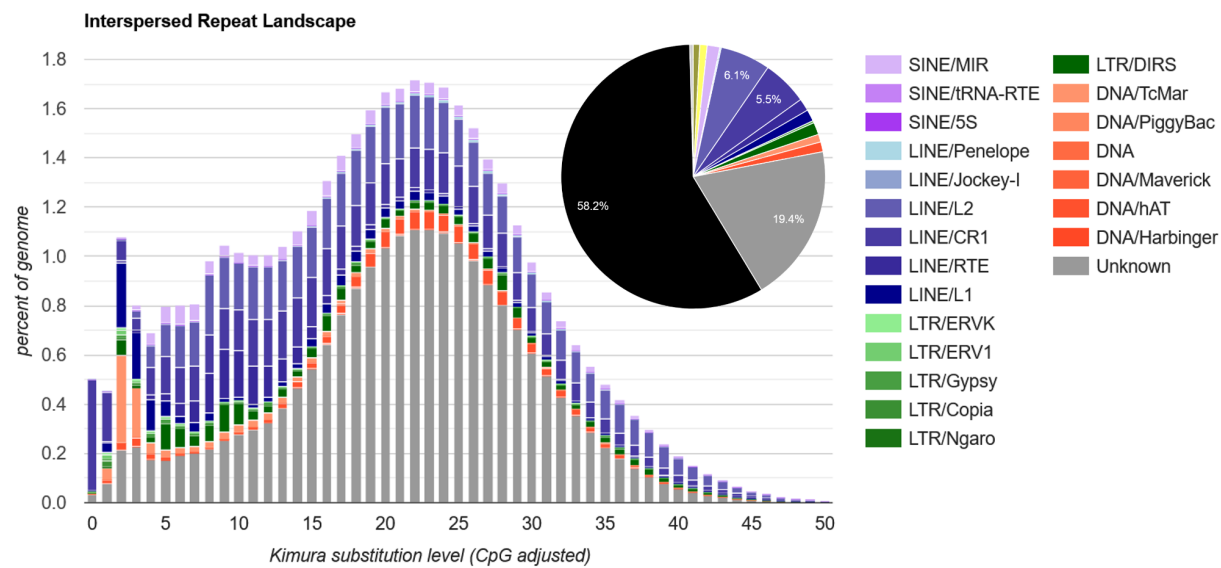


Figure S1: Repeat landscape of the Earless Monitor Lizard (*Lanthanotus borneensis*) genome assembly. Colors represent types of repetitive regions, gray areas indicate unclassified types of repetitive regions.

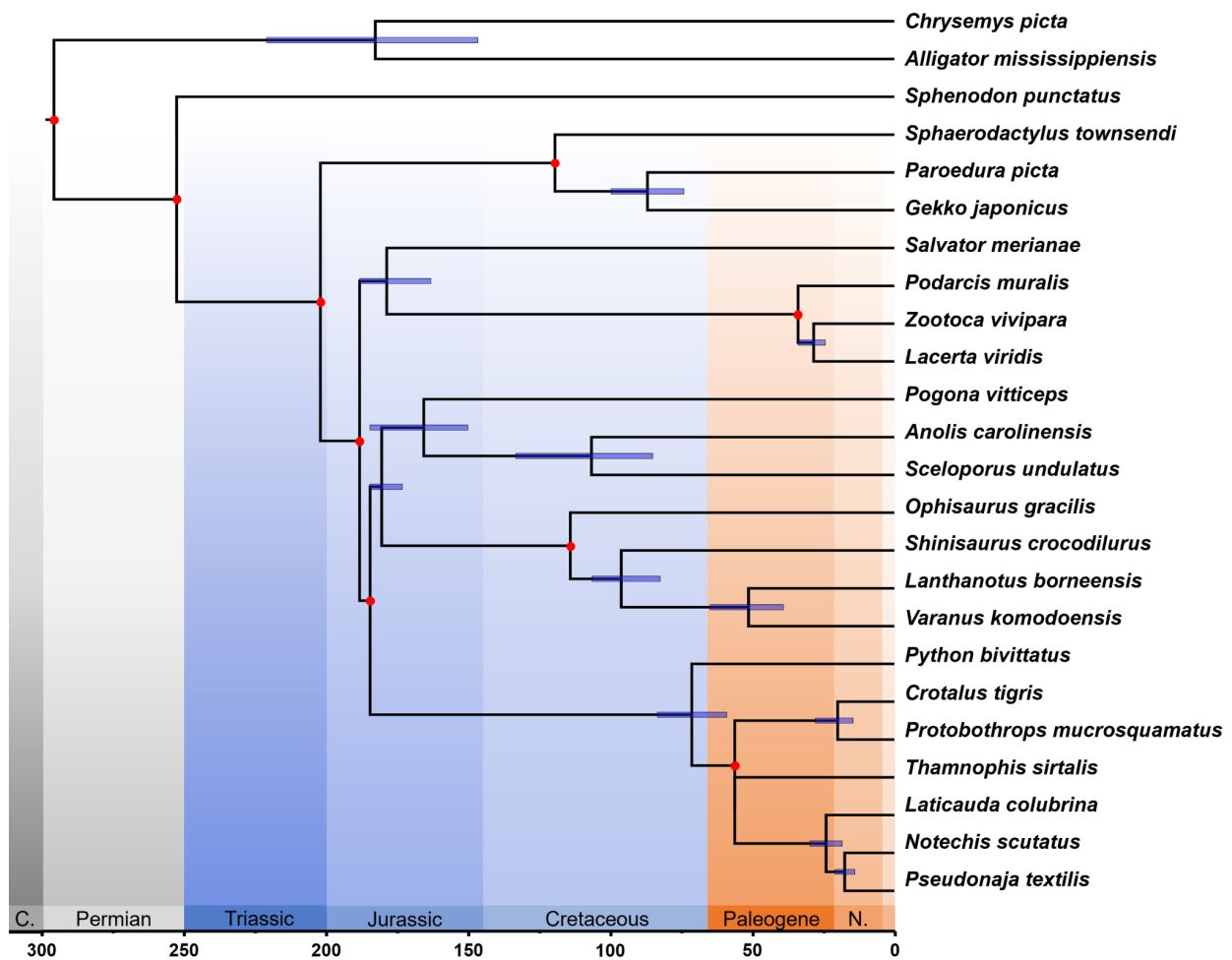


Figure S2: Divergence time estimates for Squamata over the last 300 Mya based on nine calibration points and the LSD2 method from IQTree. The used data and methods match Figure 3 of the main manuscript. Calibration data can be found in Table S2.

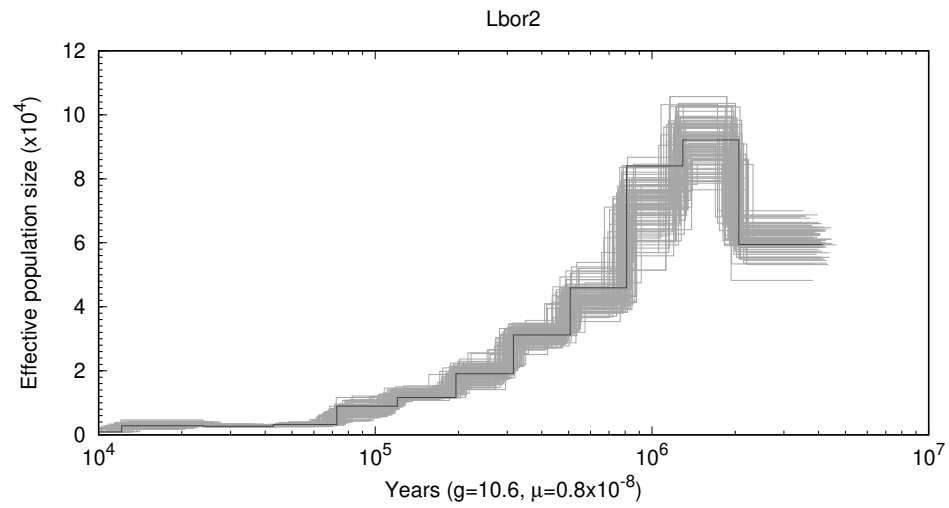


Figure S3: Bootstrapped population history of *Lanthanotus borneensis* using 34 bins ~ (-p 4+10*2+4+6). The same pattern is recovered as for the analysis with default bin number (Fig. 4 in main text), although the resolution is lower.

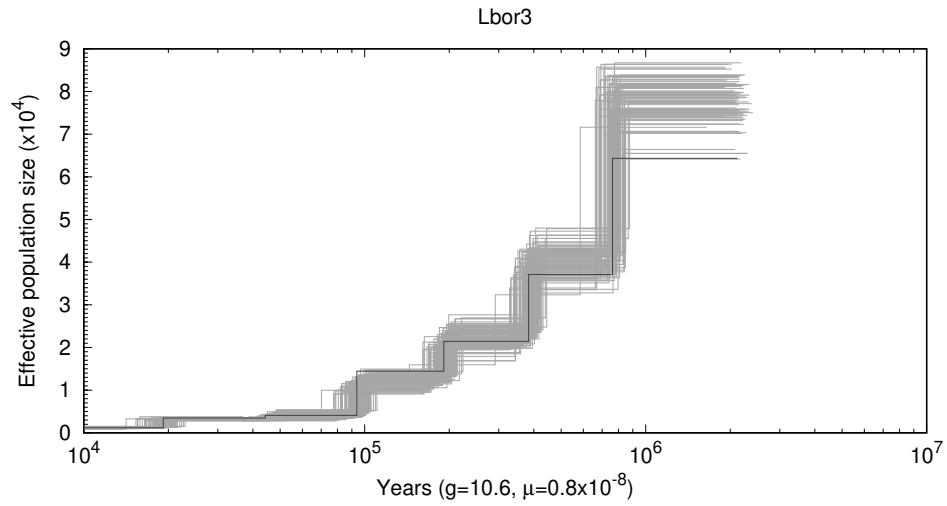


Figure S4: Bootstrapped population history of *Lanthanotus borneensis* using 24 bins ~ (-p 4+10*2+4+6). The same pattern is recovered as for the analysis with default bin number (Fig. 4 in main text) and that with 34 bins (Fig. S3 above), although the resolution is lower still.

Supplementary Tables:

Table S1. Used genomic data featured in the phylogenetic analysis of this study. Provided are the scientific name, the Assembly (GeneBank) ID, the respective NCBI BioProject and BioSample ID as well as information on whether the respective annotation was used in the annotation step of GEMOMA-to-Phylogeny.

Species	Assembly (GenBank-) ID	BioProject	BioSample	Annotation used
<i>Alligator mississippiensis</i>	GCF_000281125.3	PRJNA159843	SAMN02981418	X
<i>Anolis carolinensis</i>	GCF_000090745.1	PRJNA60547	SAMN02981230	X
<i>Chrysemys picta</i>	GCF_000241765.4	PRJNA210179	SAMN02713681	X
<i>Crotalus tigris</i>	GCF_016545835.1	PRJNA699292	SAMN12497667	X
<i>Gekko japonicus</i>	GCF_001447785.1	PRJNA308133	SAMN04157958	X
<i>Lacerta viridis</i>	GCA_900245905.1	PRJEB24178	SAMEA104452607	
<i>Notechis scutatus</i>	GCF_900518725.1	PRJNA494227	SAMEA4800209	X
<i>Paroedura picta</i>	GCA_003118565.2	PRJDB5392	SAMD00069447	
<i>Podarcis muralis</i>	GCF_004329235.1	PRJNA529705	SAMN10820182	X
<i>Pogona vitticeps</i>	GCF_900067755.1	PRJNA382134	SAMEA2300447	X
<i>Protobothrops mucrosquamatus</i>	GCF_001527695.2	PRJNA313429	SAMD00043515	X
<i>Pseudonaja textilis</i>	GCF_900518735.1	PRJNA495355	SAMEA4800208	X
<i>Python bivittatus</i>	GCF_000186305.1	PRJNA238085	SAMN02981298	X
<i>Salvator merianae</i>	GCA_003586115.2	PRJNA473319	SAMN09273531	
<i>Sceloporus undulatus</i>	GCF_019175285.1	PRJNA746303	SAMN14373011	X
<i>Shinisaurus crocodilurus</i>	GCA_021292165.1	PRJNA726336	SAMN19072228	
<i>Sphaerodactylus townsendi</i>	GCF_021028975.2	PRJNA788548	SAMN20179316	X
<i>Sphenodon punctatus</i>	GCA_003113815.1	PRJNA418887	SAMN08038466	
<i>Thamnophis sirtalis</i>	GCF_001077635.1	PRJNA294278	SAMN03759628	X
<i>Varanus komodoensis</i>	GCF_004798865.1	PRJNA523222	SAMN10967258	X
<i>Zootoca vivipara</i>	GCF_011800845.1	PRJNA638687	SAMN14329711	X

Table S2. Divergence times estimated for the calibration points used in tree calibration. The table contains all additional points used in the tree calibration presented in Figure S2.

Clade name (composition)	Age used	Reference
Squamata	202.1 Ma	Zheng and Wiens (2016)
Episquamata	188.3 Ma	Zheng and Wiens (2016)
Toxicofera	184.6 Ma	Zheng and Wiens (2016)
<i>Sphaerodactylus</i> + <i>Gekko</i>	119.5 Ma	Zheng and Wiens (2016)
Anguimorpha	114.1 Ma	Zheng and Wiens (2016)