Wildlife Research

## Supplementary Material

## Developing Loop Mediated Isothermal Amplification (LAMP) assays for rapid, presumptive DNA detection of an invasive reptile (*Boa constrictor*)

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## Appendix A.

Mitochondrial control region alignments for *B. constrictor* and twelve species of native Australian snake common in the pet trade. Mismatches indicated as coloured base pairs to indicate lack of primer suitability for species that are likely to be encountered when applying the assay in the intended context, trace DNA detection and compliance checks of potential illegal wildlife trade of a key invasive reptile.

Consensus Identity	1 GGTGTCC		20 46 <b>14</b> 011000	30 CGTGAAATCC		50 CATA <mark>GA</mark> ATGCT		70 CTTCTCACGT		90 SCTAATCCTC	100 ССТА <mark>АС</mark> АG <mark>СТТ</mark>	110 tttccaag <mark>g</mark>	120 cc <mark>g</mark> ctggttac	130 ACTCTCAAG	140 ATCATCTCAA	150 GGTCCGGAA		170 TACTAGCT	180 TTTCCAAGAC	190 CTTTGGTCGC/	200 ACCCTTTAT	209 AT - GGT
	17,363 B DI	17,372	17,382	17,392	17,402 B DLOOP F	17,412	17,421 B DI	17,431	17,441	17,451	17,461	17,470 B	17,480 DLOOP B1	17,490	17,500 B DLOOP	17,510 I B	17,520	17,530	17,540	17,550	17,560	17,569
1. Boa constrictor (NC_007398)	TGTGTCG	CTTAATTC	GCCCTTCC	GTGAAATCC	гетатесттте	ATAC-ATGCT	AACAGTCCTC	GTTTTCACGT	CCATATAATC	TAACCCCTC	сстаст-стас control r	TTTCCAAGA egion	CCACTGGTTAC	ACCTTCAAG	TCCATTICAA	GGCCCGGAA	CC <mark>ATCCCT</mark> CCC	TACTTOCTO	TTTCCAAGAC	CTTTGGTCGC	CCCTTTAT	TTAAGT
2. Morelia spilota (EF545069)	GGTGTC	CTTA <mark>GTCT/</mark>	GC <mark>G</mark> CTTCC	CGTGAAATCC	TCTATCCTT	АТА <mark>GА</mark> АТGCT	AAC <b>CA</b> T <b>T</b> CGA	CTTCACGT	CCATATCATC	MTA <b>AT</b> CCTC	сстаст <mark>а</mark> с <mark>ст</mark> о control r	egion	CC <mark>G</mark> CTGGTTAC	ACTCTCAAG	AT CATIC TCAA	GGTCCGGAA	CCACCCTCC	TACTAGCT	TTTCCAAGAC	CTTTGGTCGC	CCC TTAT	AT- <mark>G</mark> GT
3. Morelia bredli (EF545070)	GGTGTC	CTTA <mark>TCCT</mark>	GCACTTCC	CGTGAAATCC	TCTATCCTT	CATA <mark>GA</mark> ATGCT	AACCAT	CTTCTCACGT	CCATAT		сстаст <mark>а</mark> сссс control r	egion	CC <mark>G</mark> CTGGTTAC	ACTCTCAAG	ATCATCTAA	GGTCCGGAA	ссассстсс	TACTAGCT	TTTCCAAGAC	CTTTGGTCGC	CCCTTTAT	AT -GGT
4. Morelia carinata (EF545071)	GGKGTC	YTTAATCT	GTACTTCC	CGTGAAACCC	TCTATCCTT	CATA <mark>GA</mark> ATGCT	AACCATICGA	CTTYTCACGT	CCATATACTO	CCA <mark>AT</mark> CCTC	cctTATAGCTT control r	TTTCCAAG <mark>G</mark> egion	CC <mark>G</mark> CTGGTTAC	ACTCTCAAG	ATCATCTCAA	I GG <mark>I</mark> CCGGAA	CCACCCCTCC	TACTAGCT	TTTCCAAGAC	CTTTGGTCGC/	ACCCTTTAT	AT-GGT
5. Liasis olivaceus (EF545075)	GITGTC	CATGATCT/	GTACTTCC	CGTGAAATCC	TCTATCCTT	AT <mark>TGA</mark> ATGCT	AACCATICGA	CTTCACGT	CCATATAATO	CCA <b>AT</b> CCTC	сста <mark>аса</mark> с <mark>стт</mark> control r	TTTCCAAG <mark>G</mark> egion	CC <mark>G</mark> CTGGTTAC	AC <mark>TC</mark> TCAAG	AT CAT CTCAA	<b>T</b> GG <b>T</b> CCGGAA	ссассстсс	TACTAGCT	TTTCCAAGAC	CTTTGGTCGC	ACCCTTTAT	AT-GGT
6. Liasis mackloti (EF545076)	GGTGTC	CCATGATT	GTACTTCC	CGTGAAATCC	гстатсстт	CAT <mark>TGA</mark> ATGCT	AACCATTCGA	CTTCACGT	ССАТАТААТС	CTARTCCTC	сста <mark>аса</mark> с <mark>стт</mark> control r	TTTCCAAG <mark>G</mark> egion	CC <mark>G</mark> CTGGTTAC	ACTCTCAAG	ATCATCTCAA	IGGICCGGAA	ссассстсс	TACTAGCT	TTTCCAAGAC	CTTTGGTCGC	ACCCTTTAT	AT - GGT
7. Liasis fuscus (EF545077)	GITGTC	EC <mark>ATG</mark> ATT	GTACTTCC	CGTGAAATCC	TCTATCCTT	AT <mark>TGA</mark> ATGCT	AAC <b>CA</b> T <mark>T</mark> CGA	CTTCACGT	ССАТАТААТС	CTANTCCTC	сста <mark>аса</mark> с <mark>етт</mark> control r	TTTCCAAGG	CC <mark>G</mark> CTGGTTAC	ACTCTCAAG	AT CATCTCAA	I GG <mark>II</mark> CCGGAA	сслесстсо	TACTAGCT	TTTCCAAGAC	CTTTGGTCGC	CCCTTTAT	AT -GGT
8. Antaresia maculosa (EF545081)	GGTGTC	СТТААТСТ	GTACTTCC	CGTGAAATCC	TCTATCCTT	ата <mark>ба</mark> атост	AAC <b>CA</b> T <b>T</b> CGA	CTTCACGT	CCATATAATO	CCAATCCTC	сста <mark>тса</mark> ссти control r	TTTCCAAG <mark>G</mark> egion	CC <mark>G</mark> CTGGTTAC	ACTCTCAAG	ATCATCTCAA	IGGICCGGAA	CCACCCCTCC	TACTAGCT	TTTCCAAGAC	CTTTGGTCGC	ACCCTTTAT	AT - GGT
9. Antaresia stimsoni (EF545082)	GGTGTC	CCTTAATT <mark>T</mark>	GTACTTCC	CGTGAAATCC	TCTATCCTT	CATA <mark>GA</mark> ATGCT	AAC <b>CA</b> T <mark>T</mark> CGA	CTTCACGT	ссатата <mark>б</mark> то	GT <mark>TGAT</mark> CCTC	Control r	TTTCCAAGG	CC <mark>G</mark> CTGGTTAC	ACTCTCAAG	ATCATCTCAA	TGGTCCGGAA	CCACCCCTCC	TACTAGCT	TTTCCAAGAC	CTTTGGTCGC	CCCTTTAT	<mark>Ат - </mark> GT
10. Antaresia childreni (EF545083)	GGTGTC	CCTT <mark>G</mark> ATT <mark>T</mark>	GTACTTCC	CGTGAAATCC	гстатссттто	CATA <mark>GA</mark> ATGCT	AAC <mark>CA</mark> T <mark>T</mark> C <mark>GA</mark>	CTTCACGT	CCATATA <mark>G</mark> TO	ST <mark>TGAT</mark> CCTC		TTTCCAAG <mark>G</mark>	CC <mark>G</mark> CTGGTTAC	ACTCTCAAG	AT CATCTCAA	<b>T</b> GG <b>T</b> CCGGAA	CCACCCCTCC	TACTAGCT	TTTCCAAGAC	CTTTGGTCGC	ACCCTTTAT	AT -GGT
11. Antaresia perthensis (EF545084)	GGTGTC	CTTAATT	GTACTTCC	CGTGAAATCC	TCTATCCTT	<b>C</b> TA <mark>GA</mark> ATGCT	AAC <b>CA</b> T <mark>T</mark> CGA	CTTCTCACGT	ССАТАТААТС	G <b>CTAAT</b> CCTC	CCTAAAAGCTT control r	TTTCCAAG <mark>G</mark> egion	CC <mark>G</mark> CTGGTTAC	ACTCTCAAG	AT CATICTCAA	IGG <mark>I</mark> CCGGAA	ссассстсс	TACTAGCT	TTTCCAAGAC	CTTTGGTCGC	ACCCTTTAT	AT - GGT
12. Aspidites melanocephalus (EF545085)	GGTGTC	CATGATCT/	GCTCTTCC	CGTGAAATCC	гстатсстт	TCTGAATGCT	AAC <b>CA</b> T <mark>T</mark> CGA	CTTCACGT	CCATAT	CCA <b>AT</b> CCTC	сста <mark>аса</mark> с <mark>ста</mark> control r	TTTCCAAG <mark>G</mark> egion	CC <mark>G</mark> CTGGTTAC	ACTCTCAAG	AT CATIC TCAA	I GG <mark>I</mark> CCGGAA	CCACCCCTCC	TACTAGCT	TTTCCAAGAC	CTTTGGTCGC	ACCCTTTAT	AT-GGT
13. Aspidites ramsayi (EF545086)	GGTGTC	CC <mark>ATG</mark> AT <mark>CT</mark>	GCTCTTCC	CGTGAAATCC	TCTATCCTT	ТСТБААТБСТ	AAC <b>CA</b> T <b>T</b> C <mark>GA</mark>	CTTCTCACGT	CCACGTTATO	CCA <mark>AT</mark> CCTC	сста <mark>аса</mark> сст control r	тттссаа <mark>сс</mark> egion	CC <mark>G</mark> CTGGTTAC	ACTCTCAAG	AT CAT CTCAA	<b>T</b> GG <b>T</b> CCGGAA	ссатссстсс	TACTAGCCT	TTTCCAACAC	стттббт <mark>т</mark> бсл	ACCCTTTAT	AT -GGT