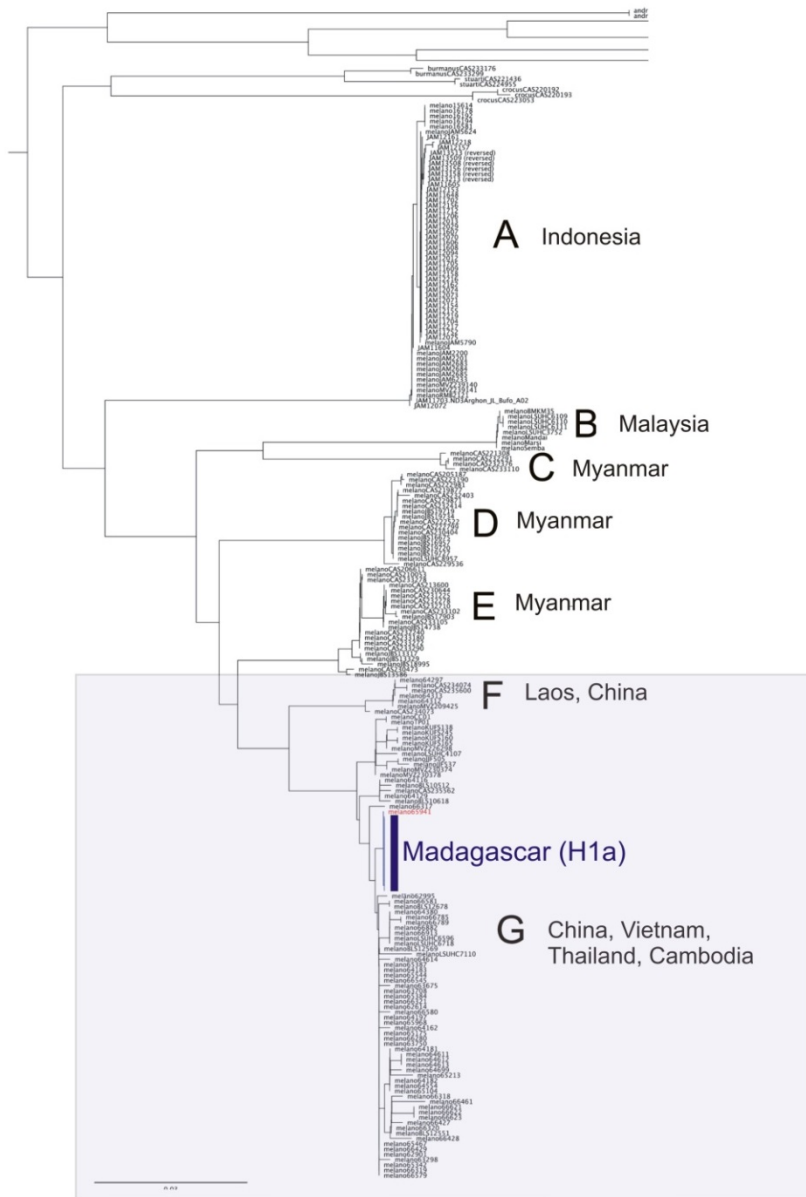


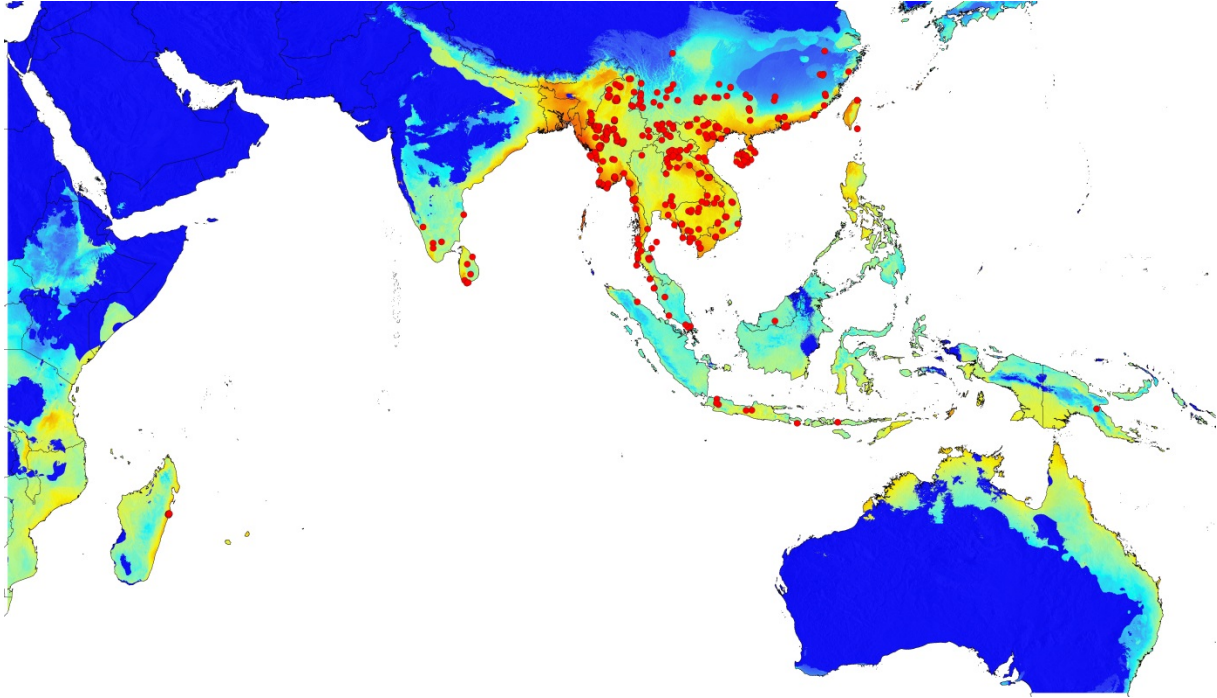
Tracing a toad invasion: Lack of mitochondrial DNA variation, haplotype origins, and potential distribution of introduced *Duttaphrynus melanostictus* in Madagascar

Miguel Vences, Jason Brown, Amy Lathrop, Gonçalo M. Rosa, Alison Cameron, Angelica Crottini, Rainer Dolch, Devin Edmonds, Karen Freeman, Frank Glaw, L. Lee Grismer, Spartak Litvinchuk, Margaret Milne, Maya Moore, Jean François Solofo, Jean Noël, Truong Quang Nguyen, Annemarie Ohler, Christian Randrianantoandro, Achille P. Raselimanana, Pauline Van Leeuwen, Guinevere O. U. Wogan, Thomas Ziegler, Franco Andreone, Robert W. Murphy

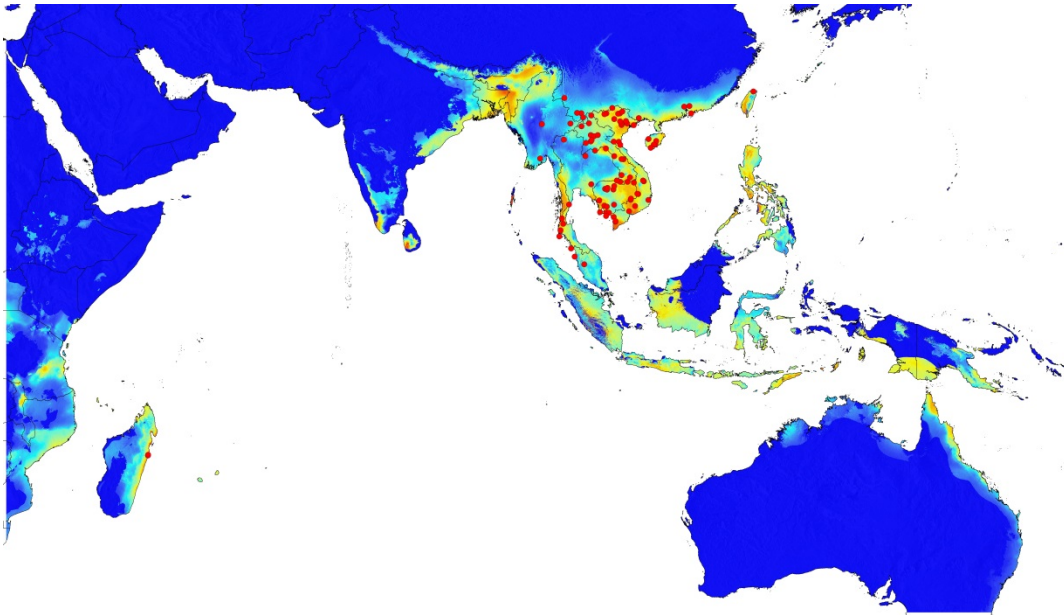
Supplementary Material



Supplementary Figure S1. Preliminary exploratory tree based on the ND3 fragment of mitochondrial DNA sequences, with representative Madagascan sequences added to the entire set of sequences of Wogan et al. (2016). The tree shows that the Madagascan haplotype (H1a in Fig. 1) belongs to the SE Asian lineage (the subclade made up by G+F, within shaded box) to which further analyses in the present study were then restricted. The rationale for defining the SE Asian lineage as unit for analysis is as follows: In the phylogenetic analysis of Wogan et al. (2016) the subclade named A (from Indonesia) was distinct both in mitochondrial and nuclear DNA data and thus represents a distinct candidate species. The relationships among subclades B, C, D and E were insufficiently resolved, but one of them (D) was supported by the nuclear data as distinct and thus represents a separate candidate species as well. The assignment of B, C and E (differing from G+F by a degree of mitochondrial divergence similar to that between D and G+F) is uncertain and they were excluded from our analysis.



Supplementary Figure S2. Potential distribution of the *Duttaphrynus melanostictus* complex in Asia, Madagascar, and Australia, predicted by species distribution models derived from much of the native range of the species as downloaded from gbif.org and complemented with our records (red dots; used for training the model, except for those on Madagascar). The actual range of this species complex comprises additional areas west of the range indicated by the red dots (especially in India, Nepal, Pakistan and the Maldives) which, however, were not yet studied genetically. Note that localities in this map include those of the SE Asian lineage, of other lineages from Wogan et al. (2016), and records not studied genetically.



Supplementary Figure S3. Potential distribution of *Duttaphrynus melanostictus* in Asia, Madagascar, and Australia, predicted by species distribution models derived from the distribution records of the SE Asian lineage only (red dots; used for training the model, except for those in Madagascar).

Supplementary Table S1. Clutch size as observed by oocyte count of right ovary in *Duttaphrynus melanostictus* from Nepal.

Collection number	Locality	Altitude [m a.s.l.]	SVL [mm]	Latitude	Longitude	Oocyte number	Total oocyte estimate
MNHN 1976.1349	Lasun	1990	94.05	27.2142	87.8647	1617	3234
MNHN 1976.1359	Doti	1400	65.25	29.2819	81.0394	1734	3468
MNHN 1975.2240	Pattharsango	2100	71.9	29.1931	81.9125	1933	3866
MNHN 1975.2241	Pattharsango	2100	68.6	29.1931	81.9125	2246	4492
MNHN 1976.1310	Hile	2000	82.6	27.0361	87.3164	2293	4586
MNHN 1976.1422	Doti	1400	76.3	29.2819	81.0394	2341	4682
MNHN 1976.982	Ramche	2000	76.35	28.0406	85.2203	2370	4740
MNHN 1976.1329	Sukhani	300	78.9	26.7383	87.9206	2499	4998
MNHN 1976.1423	Doti	1400	69	29.2819	81.0394	2732	5464
MNHN 1976.1206	Pokhara	820	62.15	28.2	83.9806	3771	7542
MNHN 1976.1459	Aale Pokhari	2200	82.5	27.1	87.3833	3934	7868
MNHN 1976.1309	Modibeni	820	77.3	28.2028	83.6714	4486	8972

Supplementary Table S2. Localities, geographical coordinates, voucher/sample numbers and GenBank accession numbers of sequenced samples of *Duttaphrynus melanostictus*. Acronyms in voucher numbers are as follows: CAS, California Academy of Sciences, San Francisco, USA; FMNH, Field Museum, Chicago, USA; LSUHC, La Sierra University Herpetological Collection, Riverside, USA; MNHN, Museum National d'Histoire Naturelle, Paris, France; NCSM, North Carolina State Museum of Natural Sciences, USA; KU, Kansas University, Lawrence, USA; ROM, Royal Ontario Museum, Canada. The following acronyms are furthermore used in sample numbers (other sample numbers are ad-hoc laboratory numbers): DM, sample numbers given in ROM; TZ, Thomas Ziegler sample numbers; SL; Spartak Litvinchuk sample numbers.

Country	Sample	Voucher	Locality	Latitude	Longitude	Accession
Cambodia	K1523	1523K	Kampot, Kampot province	10.6166667	104.3333334	KY823030
Cambodia	K4941	MNHN 2010.7070	Tbeng Meanchey, Lac de barrage, Prae Vihear province, 50 m	13.7702667	104.9505	KY823031
Cambodia		FMNH257352	Siem Reap town <10m	13.3736111	104.8438889	KU183346
Cambodia		FMNH257353	Kantrieng commune, Tatrow village., <10m	13.3394444	104.1019444	KU183349
Cambodia		FMNH257354	Phnom Kulen Hill Range, 400m	13.567	104.145	KU183350
Cambodia		FMNH257355	Siem Reap town, 13°22'25"N 103°50'38"E, <10m	13.3736111	103.8438889	KU183348
Cambodia		FMNH262749	Virachey National Park, small tributary of O Lopeung stream, 14°11'16.3"N 107°17'36.1"E, 160m	14.1878611	107.2933611	KU183374
Cambodia		FMNH262750	Virachey National Park, near 14°16'34.8"N 106°32'10.5"E, 200m	14.2763333	106.53625	KU183375
Cambodia		FMNH262751	Samling Logging Concession, near 12°16'45.7"N 106°56'36.4"E, 180m	12.2793611	106.9434444	KU183376
Cambodia		FMNH262752	Samling Logging Concession, Keo Seima camp, 12°08'16.0"N 106°54'54.8"E, 160m	12.1377778	106.9152222	KU183377
Cambodia		FMNH263054	Bokor National Park, SE Cardamom Mountains, 10°37'35"N 104°01'30"E, 1000m	10.6263889	104.025	KU183354
Cambodia		FMNH263055	Bokor National Park, SE Cardamom Mountains, 10°37'35"N 104°01'30"E, 1000m	10.6263889	104.025	KU183355
Cambodia		FMNH263056	Bokor National Park, SE Cardamom Mountains, 10°37'35"N 104°01'30"E, 1000m	10.6263889	104.025	KU183356
Cambodia		FMNH263057	Bokor National Park, SE Cardamom Mountains, 10°37'35"N 104°01'30"E, 1000m	10.6263889	104.025	KU183357
Cambodia		FMNH263059	Bokor National Park, SE Cardamom Mountains, near 10°37'35"N 104°01'30"E, 1000m	10.6263889	104.025	KU183362
Cambodia		FMNH263063	Kirirom National Park, near 11°19'14"N 104°04'56"E, 700m	11.3205556	104.0822222	KU183363
Cambodia		FMNH263064	Kirirom National Park, near 11°19'14"N 104°04'56"E, 700m	11.3205556	104.0822222	KU183364
Cambodia		FMNH263065	Kirirom National Park, near 11°19'14"N 104°04'56"E, 700m	11.3205556	104.0822222	KU183365
Cambodia		FMNH263066	Kirirom National Park, near 11°19'14"N 104°04'56"E, 700m	11.3205556	104.0822222	KU183366
Cambodia		FMNH263067	Kirirom National Park, near 11°20'29"N 104°02'25"E, 700m	11.3413889	104.0402778	KU183367
Cambodia		FMNH263070	Bayon Temple, Angkor Wat complex, 13°26'30"N 103°51'46"E, <10m	13.4416667	103.8627778	KU183368
Cambodia		FMNH263083	Cardamom Mountains, Phnom Chan Mountain, 11°26'30"N 103°47'00"E, 100-200m	11.4416667	103.7833333	KU183370
Cambodia	SL964		Phnom Penh	11.5692333	104.9244167	KY823032
Cambodia	SL965		Phnom Penh	11.5692333	104.9244167	KY823033
Cambodia	SL15		Phnom Bokar	10.63205	104.01905	KY823034
Cambodia		LSUHC8564	Kampot Province, Bokor National Park, field station	10.6263889	104.025	KY823035
Cambodia		LSUHC10119	Pursat Province, near O'Som	12.068	103.1585	KY823036
Cambodia		LSUHC10120	Pursat Province, near O'Som	12.068	103.1585	KY823037
Cambodia		LSUHC10558	Koh Rong, Broken Heart Guest House	10.677	103.261	KY823038
China		CAS234073	Longling County, Mengzhai River	24.2385	99.00338889	KU183435
China		CAS234074	Longling County, Mengzhai River	24.2385	99.00338889	KU183436
China		KIZ04715	Luofu Mountain, Lianhe Village, Zhengguo Town, Huizhou City	23.278	113.915	KU183460
China		KIZ04739	Baiyun Mountain, Guangzhou City	23.202	113.303	KU183461

China		KU311571	Shiwan Dashang Nature Reserve (Near town of Fulong)	21.8462333	107.8891333	KU183462
China		KU311572	Shiwan Dashang Nature Reserve (Near town of Wang Le)	21.8615167	107.85985	KU183463
China		KU311573	Shiwan Dashang Nature Reserve	21.8437333	107.86395	KU183464
China		KU311574	Town of Wang Le	21.85745	107.86166	KU183465
China		LSUHC4107	Diao Luo Shan	18.72472	109.86861	KU183467
China		MVZ209425	Yunnan Institute Forest Tropical Botany, Menglung	21.91667	101.25	KU183477
China		MVZ230374	Hongzha River near Louma	19.1344667	109.9570667	KU183479
China		MVZ230378	Hongzha River near Louma	19.1344667	109.9570667	KU183480
China	DM001	ROM 44359	Bawaling Nature Reserve	19.3596667	109.0386666	KY823039
China	DM002	ROM 43075	Diao Luo Shan Forest Park	18.72472	109.86861	KY823040
China	DM003	ROM 44358	Kangle Hot Springs, creek below resort	18.70222	109.66111	KY823041
China	DM004	ROM 44357	on road to Jian Feng Ling Nature Reserve	18.3086	109.2885	KY823042
China	DM005	ROM 28486	Hong Kong	22.41	114.12	KY823043
China	DM006	ROM 28484	Hong Kong	22.41	114.12	KY823044
China	DM007	ROM 30420	Hong Kong	22.41	114.12	KY823045
China	DM008	ROM 28487	Hong Kong	22.41	114.12	KY823046
China	DM009	ROM 28485	Hong Kong	22.41	114.12	KY823047
China	DM010	ROM 28488	Hong Kong	22.41	114.12	KY823048
China	DM011			23.06	104.72	KY823049
China	DM012	ROM 41267		23.06	104.72	KY823050
China	DM013		Simao, 12.3 km SE of Simao	22.4313	101.0328	KY823051
China	DM014		Simao, 8.8 km W of Simao	22.4724	100.5309	KY823052
China	DM015		Simao, 8.8 km W of Simao	22.4724	100.5309	KY823053
China	DM016	ROM 41268	Simao, 8.8 km W of Simao	22.4724	100.5309	KY823054
China		LSUHC4107	Hainan Island, Diao Luo Shan	18.72472	109.86861	KY823055
probably China			no locality / complete mitogenome			AY458592
Laos		FMNH255309	Dong Khanthung National Biodiversity Conservation Area, near Ban Nong Som Hong village, 14°17'N 105°40'E, 100m	14.2833333	105.6666667	KU183344
Laos		FMNH255314	Phou Hin Poun National Biodiversity Conservation Area, Ban Vieng village, 17°20'N 104°57'E, 200m	17.3333333	104.95	KU183347
Laos		FMNH257944	east of Mekong River, near Ban Namon village, 19°04'39"N 102°08'44"E, 200-300m	19.0775	102.1455556	KU183351
Laos		FMNH257945	west of Mekong River, near 18°54'08"N 101°34'30"E, 250-400m	18.9022222	101.575	KU183352
Laos		FMNH257946	Vientiane city, 17°58'41"N 102°39'16"E, 190m	17.9780556	102.6544444	KU183353
Laos		FMNH257947	Phou Dendin National Biodiversity Conservation Area, near Nam Khang River, near 22°09'04"N 102°12'19"E, 600m	22.1608333	102.2052778	KU183358
Laos		FMNH257948	Phou Dendin National Biodiversity Conservation Area, near Nam Khang River on Nam Kaw stream, near 22°09'39"N 102°11'07"E, 600m	22.1608333	102.1852778	KU183359
Laos		FMNH257949	Phou Dendin National Biodiversity Conservation Area, near Nam Khang River on Nam Kaw stream, near 22°09'39"N 102°11'07"E, 600m	22.1608333	102.1852778	KU183360
Laos		FMNH257953	Vientiane city, 17°58'41"N 102°39'16"E, 190m	17.9780556	102.6544444	KU183345
Laos		FMNH263072	Vientiane city, 17°58'41"N 102°39'16"E, 190m	17.9780556	102.6544444	KU183369
Laos		FMNH271108	Nam Ha National Protected Area, Nam Maye Stream, near 20°52'08.0"N 101°03'19.0"E, 1000m elev.	20.8688889	101.0552778	KU183400
Laos		FMNH271176	Nam Ha National Protected Area, Nam Maye Stream, near 20°52'08.0"N 101°03'19.0"E, 1000m elev.	20.8688889	101.0552778	KU183399
Laos		NCSM76224	Sepon Mining Tenement	16.9586	106.05	KU183401
Laos		NCSM76225	Sepon Mining Tenement	16.9671	105.8137	KU183402
Laos		NCSM76226	Sepon Mining Tenement	16.9417	106.0541	KU183403
Madagascar	Dolch1		Unknown			KY823058
Madagascar	FRT1080		Unknown			KY823059
Madagascar	S01		Ansarimasina	-18.20013	49.33935	KY823060
Madagascar	S02		Ansarimasina	-18.20013	49.33935	KY823061
Madagascar	S03		Ansarimasina	-18.20013	49.33935	KY823062

Madagascar	S04		Ansarimasina	-18.20013	49.33935	KY823063
Madagascar	S05		Ansarimasina	-18.20013	49.33935	KY823064
Madagascar	S06		Ansarimasina	-18.20013	49.33935	KY823065
Madagascar	S07		Ansarimasina	-18.20013	49.33935	KY823066
Madagascar	S08		Ansarimasina	-18.20013	49.33935	KY823067
Madagascar	S09		Ansarimasina	-18.20013	49.33935	KY823068
Madagascar	S10		Ansarimasina	-18.20013	49.33935	KY823069
Madagascar	S11		Ansarimasina	-18.20013	49.33935	KY823070
Madagascar	S12		Ansarimasina	-18.20013	49.33935	KY823071
Madagascar	S13		Ansarimasina	-18.20013	49.33935	KY823072
Madagascar	S14		Ansarimasina	-18.20013	49.33935	KY823073
Madagascar	S15		Ansarimasina	-18.20013	49.33935	KY823074
Madagascar	S16		Ansarimasina	-18.20013	49.33935	KY823075
Madagascar	S17		Ansarimasina	-18.20013	49.33935	KY823076
Madagascar	S18		Ansarimasina	-18.20013	49.33935	KY823077
Madagascar	S19		Ansarimasina	-18.20013	49.33935	KY823078
Madagascar	S20		Ampasimagneva	-18.225	49.3425	KY823079
Madagascar	S32		Ampasimagneva	-18.225	49.3425	KY823080
Madagascar	S33		Ampasimagneva	-18.225	49.3425	KY823081
Madagascar	S34		Ampasimagneva	-18.225	49.3425	KY823082
Madagascar	S35		Ampasimagneva	-18.225	49.3425	KY823083
Madagascar	S36		Ampasimagneva	-18.225	49.3425	KY823084
Madagascar	S37		Ampasimagneva	-18.225	49.3425	KY823085
Madagascar	S38		Ampasimagneva	-18.225	49.3425	KY823086
Madagascar	S39		Ampasimagneva	-18.225	49.3425	KY823087
Madagascar	S40		Ampasimagneva	-18.225	49.3425	KY823088
Madagascar	S41		Ampasimagneva	-18.225	49.3425	KY823089
Madagascar	S42		Ampasimagneva	-18.225	49.3425	KY823090
Madagascar	S43		Ampasimagneva	-18.225	49.3425	KY823091
Madagascar	S44		Ampasimagneva	-18.225	49.3425	KY823092
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Madagascar	S49		Ampasimagneva	-18.225	49.3425	KY823095
Madagascar	S50		Ampasimagneva	-18.225	49.3425	KY823096
Madagascar	S51		Ampasimagneva	-18.225	49.3425	KY823097
Madagascar	S52		Ampasimagneva	-18.225	49.3425	KY823098
Madagascar	S53		Ampasimagneva	-18.225	49.3425	KY823099
Madagascar	S54		Ampasimagneva	-18.225	49.3425	KY823100
Madagascar	S55		Ampasimagneva	-18.225	49.3425	KY823101
Madagascar	S56		Ampasimagneva	-18.225	49.3425	KY823102
Madagascar	S57		Ampasimagneva	-18.225	49.3425	KY823103
Madagascar	S58		Ampasimagneva	-18.225	49.3425	KY823104
Madagascar	S59		Ampasimagneva	-18.225	49.3425	KY823105
Madagascar	S60		Ampasimagneva	-18.225	49.3425	KY823106
Madagascar	T01		Antsapanana Ambodisaina	-18.13925	49.36593	KY823107
Madagascar	T02		Antsapanana Ambodisaina	-18.13925	49.36593	KY823108
Madagascar	T03		Antsapanana Ambodisaina	-18.13925	49.36593	KY823109
Madagascar	T04		Antsapanana Ambodisaina	-18.13925	49.36593	KY823110
Madagascar	T05		Antsarimasina (Antsapanana Fako)	-18.20013	49.33935	KY823111

Madagascar	T06		Ansarimasina	-18.20013	49.33935	KY823112
Madagascar	T07		Ansarimasina	-18.20013	49.33935	KY823113
Madagascar	T08		Ansarimasina	-18.20013	49.33935	KY823114
Madagascar	T09		Ansarimasina	-18.20013	49.33935	KY823115
Madagascar	T10		Ansarimasina	-18.20013	49.33935	KY823116
Madagascar	T11		Ansarimasina	-18.20013	49.33935	KY823117
Madagascar	T12		Ansarimasina	-18.20013	49.33935	KY823118
Madagascar	T13		Ansarimasina	-18.20013	49.33935	KY823119
Madagascar	T14		Ansarimasina	-18.20013	49.33935	KY823120
Madagascar	T15		Ansarimasina	-18.20013	49.33935	KY823121
Madagascar	T16		Ansarimasina	-18.20013	49.33935	KY823122
Madagascar	T18		Mahasoa	-18.22894	49.32541	KY823123
Madagascar	T19		Mahasoa	-18.22894	49.32541	KY823124
Madagascar	T21		Mahasoa	-18.22894	49.32541	KY823125
Madagascar	T22		Mahasoa	-18.22894	49.32541	KY823126
Madagascar	T23		Mahasoa	-18.22894	49.32541	KY823127
Madagascar	T25		Mahatsara	-18.24733	49.33882	KY823128
Madagascar	T26		Mahatsara	-18.24733	49.33882	KY823129
Madagascar	T27		Mahatsara	-18.24733	49.33882	KY823130
Madagascar	T28		Mahatsara	-18.24733	49.33882	KY823131
Madagascar	T29		Mahatsara	-18.24733	49.33882	KY823132
Madagascar	T30		Mahatsara	-18.24733	49.33882	KY823133
Madagascar	T31		Antseranampetsa	-18.24288	49.33722	KY823134
Madagascar	T32		Antseranampetsa	-18.24288	49.33722	KY823135
Madagascar	T34		Antseranampetsa	-18.24288	49.33722	KY823136
Madagascar	T35		Antseranampetsa	-18.24288	49.33722	KY823137
Madagascar	T36		Antseranampetsa	-18.24288	49.33722	KY823138
Madagascar	T37		Antseranampetsa	-18.24288	49.33722	KY823139
Madagascar	T38		Mahatsara	-18.24733	49.33882	KY823140
Madagascar	T39		Mahatsara	-18.24733	49.33882	KY823141
Madagascar	T40		Mahatsara	-18.24733	49.33882	KY823142
Madagascar	T41		Mahatsara	-18.24733	49.33882	KY823143
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Madagascar	T43		Mahatsara	-18.24733	49.33882	KY823145
Madagascar	T44		Mahatsara	-18.24733	49.33882	KY823146
Madagascar	T45		Farafaty	-18.13583	49.36238	KY823147
Madagascar	T46		Farafaty	-18.13583	49.36238	KY823148
Madagascar	T47		Farafaty	-18.13583	49.36238	KY823149
Madagascar	T48		Farafaty	-18.13583	49.36238	KY823150
Madagascar	T50		Farafaty	-18.13583	49.36238	KY823151
Madagascar	T52		Farafaty	-18.13583	49.36238	KY823152
Madagascar	T53		Stadium Barikadimy	-18.14662	49.38468333	KY823153
Madagascar	T54		Stadium Barikadimy	-18.14662	49.38468333	KY823154
Madagascar	T55		Stadium Barikadimy	-18.14662	49.38468333	KY823155
Madagascar	T56		Stadium Barikadimy	-18.14662	49.38468333	KY823156
Madagascar	T57		Stadium Barikadimy	-18.14662	49.38468333	KY823157
Madagascar	T58		Stadium Barikadimy	-18.14662	49.38468333	KY823158
Madagascar	T60		Stadium Barikadimy	-18.14662	49.38468333	KY823159
Malaysia		LSUHC6596	Cameron Highlands	4.4709	101.3764	KU183471

Malaysia		LSUHC6718	Pulau Penang	5.39992	100.23884	KU183472
Malaysia		LSUHC7110	Pulau Langkawi	6.36667	99.8	KU183473
Malaysia		LSUHC6083	Kedah, Pulau Langkawi, Lubuk Semilang	6.369	99.802	KY823160
Myanmar		CAS230473	Yarngan Township, Panlaung-Pyadalin Cave Wildlife Sanctuary, Pyadalin Cave, 21 07 58.4 N, 96 20 25.0 E	21.1328889	96.34027778	KU183418
Myanmar		CAS235562	Kyaitong Township, Loi Mwe Region, Naung Cho village, border of Loi Mwe Wildlife Sanctuary, 21 12 27.1 N, 99 44 14.6 E.	17.0467778	96.11038889	KU183437
Myanmar		CAS235600	Mine Pyin Township, S of Mine Pyin Town, 21 20 14.5 N, 99 02 11.2 E	21.2075278	99.73738889	KU183438
Taiwan		CC01	Mt. Chan-chu, Taipei City	25.0085	121.5438056	KU183439
Taiwan	TP01		Mt. Chan-chu	25.0085	121.5438056	KU183485
Taiwan	DM017			23.8	120.8	KY823161
Taiwan	DM018			23.8	120.8	KY823162
Thailand	K3036	K3036	Doi Chiang Dao, Chiang Mai province, 570 m	19.283333	98.95	KY823163
Thailand	K322	P322	Sa Nang Manora Forest Park, Phang Nga province,	8.5105556	98.5422222	KY823164
Thailand	K922	P922	Sa Nang Manora Forest Park, Phang Nga province,	8.5105556	98.5422222	KY823165
Thailand		FMNH257951	Phuket Marine Biological Center, on southern tip of Phuket Island, 07°48'02"N 98°24'34"E	7.80055556	98.40944444	KU183361
Thailand		FMNH265896	Phu Luang Wildlife Sanctuary, Phu Luang Wildlife Research Station, 17°20'42.8"N 101°30'27.9"E, 940m	17.3452222	101.50775	KU183378
Thailand		FMNH265897	Phu Wua Wildlife Sanctuary, park headquarters, 18°14'47.3"N 103°57'44.6"E, 175m	18.2464722	103.9623889	KU183379
Thailand		FMNH265898	Phu Wua Wildlife Sanctuary, park headquarters, 18°14'47.3"N 103°57'44.6"E, 175m	18.2464722	103.9623889	KU183380
Thailand		FMNH265899	Phu Wua Wildlife Sanctuary, park headquarters, 18°14'47.3"N 103°57'44.6"E, 175m	18.2464722	103.9623889	KU183381
Thailand		FMNH265900	Phu Wua Wildlife Sanctuary, park headquarters, 18°14'47.3"N 103°57'44.6"E, 175m	18.2464722	103.9623889	KU183382
Thailand		FMNH265901	Phu Wua Wildlife Sanctuary, park headquarters, 18°14'47.3"N 103°57'44.6"E, 175m	18.2464722	103.9623889	KU183383
Thailand		FMNH265904	Phu Jong-Na Yoi National Park, headquarters, 14°26'05.2"N 105°15'12.8"E, 230m	14.4347778	105.2535556	KU183384
Thailand		FMNH265905	Phu Jong-Na Yoi National Park, headquarters, 14°26'05.2"N 105°15'12.8"E, 230m	14.4347778	105.2535556	KU183385
Thailand		FMNH265906	Phu Jong-Na Yoi National Park, headquarters, 14°26'05.2"N 105°15'12.8"E, 230m	14.4347778	105.2535556	KU183386
Thailand		FMNH265907	Phu Jong-Na Yoi National Park, headquarters, 14°26'05.2"N 105°15'12.8"E, 230m	14.4347778	105.2535556	KU183387
Thailand		FMNH265908	Pang Si Da National Park, headquarters, 13°58'58.1"N 102°12'16.6"E, 90m	13.9828056	102.2046111	KU183388
Thailand		FMNH265909	Pang Si Da National Park, Pang Si Da waterfall, Nam Keo River, 13°59'42.9"N 102°12'23.3"E, 180m	13.99525	102.2064722	KU183389
Thailand		FMNH265910	Pang Si Da National Park, Pang Si Da waterfall, Nam Keo River, 13°59'42.9"N 102°12'23.3"E, 180m	13.99525	102.2064722	KU183390
Thailand		FMNH265911	Pang Si Da National Park, Pang Si Da waterfall, Nam Keo River, 13°59'42.9"N 102°12'23.3"E, 180m	13.99525	102.2064722	KU183391
Thailand		FMNH268268	Huay Yang National Park	11.5833333	99.55	KU183392
Thailand		FMNH268269	Kaeng Krung National Park	9.3	98.86666667	KU183397
Thailand		FMNH268270	Kaeng Krung National Park	9.3	98.86666667	KU183398
Thailand		FMNH268272	Ngao Falls National Park	9.93333333	98.71666667	KU183396
Thailand		FMNH268278	Huay Yang National Park	11.5833333	99.55	KU183393
Thailand		FMNH268282	Ngao Falls National Park	9.93333333	98.71666667	KU183395
Thailand		FMNH268283	Huay Yang National Park	11.5833333	99.55	KU183394
Thailand	SL220		Phuket	7.97	98.39	KY823166
Vietnam	K3811	K3811	Hon Ba, Khanh Hoa province, 65 m	12.13168	109.03278	KY823167
Vietnam	K453	MNHN 1999.5601	Sapa, main Camp, 1250 m	22.33	103,821	KY823168
Vietnam	K670	MNHN 1999.5603	Sapa, main Camp, 1250 m	22.33	103,821	KY823169
Vietnam	K796	MNHN 2007.6236	Huu Lien, Longson Province, 70 m	21.5056	106.3446	KY823170
Vietnam	K798	MNHN 2007.6238	Huu Lien, Longson Province, 70 m	21.5056	106.3446	KY823171
Vietnam	K799	MNHN 2007.6239	Huu Lien, Longson Province, 70 m	21.5056	106.3446	KY823172
Vietnam	TZ 700-10		Ho-Chi Minh City Zoo	10.788139	106.705749	KY823173

Vietnam	TZ 700-11		Ho-Chi Minh City Zoo	10.788139	106.705749	KY823174
Vietnam	TZ 700-12		Ho-Chi Minh City Zoo	10.788139	106.705749	KY823175
Vietnam	TZ 700-13		Ho-Chi Minh City Zoo	10.788139	106.705749	KY823176
Vietnam	TZ 700-14		Ho-Chi Minh City Zoo	10.788139	106.705749	KY823177
Vietnam	TZ 700-1		Ho-Chi Minh City Zoo	10.788139	106.705749	KY823178
Vietnam	TZ 700-2		Ho-Chi Minh City Zoo	10.788139	106.705749	KY823179
Vietnam	TZ 700-3		Ho-Chi Minh City Zoo	10.788139	106.705749	KY823180
Vietnam	TZ 700-4		Ho-Chi Minh City Zoo	10.788139	106.705749	KY823181
Vietnam	TZ 700-5		Ho-Chi Minh City Zoo	10.788139	106.705749	KY823182
Vietnam	TZ 700-6		Ho-Chi Minh City Zoo	10.788139	106.705749	KY823183
Vietnam	TZ 700-8		Ho-Chi Minh City Zoo	10.788139	106.705749	KY823184
Vietnam	TZ 700-9		Ho-Chi Minh City Zoo	10.788139	106.705749	KY823185
Vietnam	TZ Phu1		Phu Quoc	10.215033	103.973783	KY823186
Vietnam	TZ Phu2		Phu Quoc	10.215033	103.973783	KY823187
Vietnam		FMNH259128	U Minh Thuong Nature Reserve, 09°32'40"N 105°05'11"E, <10m	9.54444444	105.0863889	KU183371
Vietnam		FMNH259129	U Minh Thuong Nature Reserve, 09°35'45"N 105°06'36"E, <10m	9.59583333	105.11	KU183372
Vietnam		FMNH259131	U Minh Thuong Nature Reserve, 09°34'39"N 105°03'03"E, <10m	9.5775	105.0508333	KU183373
Vietnam		MVZ226298	Tam Dao	21.45361	105.64361	KU183478
Vietnam	DM019	ROM 27204	Ba Be National Park	22.4175	105.6341667	KY823188
Vietnam	DM020	ROM 27206	Ba Be National Park	22.4175	105.6341667	KY823189
Vietnam	DM021	ROM 27207	Ba Be National Park	22.4175	105.6341667	KY823190
Vietnam	DM022	ROM 27208	Ba Be National Park	22.4175	105.6341667	KY823191
Vietnam	DM024	ROM 27211	Ba Be National Park	22.4175	105.6341667	KY823192
Vietnam	DM025	ROM 27212	Ba Be National Park	22.4175	105.6341667	KY823193
Vietnam	DM026	ROM 27203	Ba Be National Park	22.4175	105.6341667	KY823194
Vietnam	DM027	ROM 36193	Quang Thanh Village	22.6286111	105.9127778	KY823195
Vietnam	DM028	ROM 36188	Quang Thanh Village	22.6286111	105.9127778	KY823196
Vietnam	DM029	ROM 33863	Yok Don National Park; 2.5km SSW of park HQ	12.8327778	107.8091667	KY823197
Vietnam	DM030	ROM 33875	Yok Don National Park; 2.5km SSW of park HQ	12.8327778	107.8091667	KY823198
Vietnam	DM031	ROM 33887	Yok Don National Park; 2.5km SSW of park HQ	12.8327778	107.8091667	KY823199
Vietnam	DM032	ROM 33855	Yok Don National Park; 2.5km SSW of park HQ	12.8327778	107.8091667	KY823200
Vietnam	DM033	ROM 32539	Yok Don National Park; 2.5km SSW of park HQ	12.8327778	107.8091667	KY823201
Vietnam	DM035	ROM 32535	Yok Don National Park; 2.5km SSW of park HQ	12.8327778	107.8091667	KY823202
Vietnam	DM036	ROM 33872	Yok Don National Park; 8 km W of Park HQ	12.8533333	107.7933333	KY823203
Vietnam	DM038	ROM 33883	Yok Don National Park; Dak Ken River Camp; forest path W of camp, N of Yok Don Mt.	12.8672222	107.7075	KY823204
Vietnam	DM039	ROM 33878	Yok Don National Park; Dak Ken River Camp; forest path W of camp, N of Yok Don Mt.	12.8672222	107.7075	KY823205
Vietnam	DM040	ROM 33873	Yok Don National Park; Dak Ken River Camp; forest path W of camp, N of Yok Don Mt.	12.8672222	107.7075	KY823206
Vietnam	DM042	ROM 33868	Yok Don National Park; vicinity of Park HQ	12.8536111	107.8133333	KY823207
Vietnam	DM043	ROM 33861	Yok Don National Park; vicinity of Park HQ	12.8536111	107.8133333	KY823208
Vietnam	DM044	ROM 33853	Yok Don National Park; vicinity of Park HQ	12.8536111	107.8133333	KY823209
Vietnam	DM045	ROM 33886	Yok Don National Park; vicinity of Park HQ	12.8536111	107.8133333	KY823210
Vietnam	DM046	ROM 33857	Yok Don National Park; vicinity of Park HQ	12.8536111	107.8133333	KY823211
Vietnam	DM047	ROM 33859	Yok Don National Park; vicinity of Park HQ	12.8536111	107.8133333	KY823212
Vietnam	DM049	ROM 33856	Yok Don National Park; vicinity of Park HQ	12.8536111	107.8133333	KY823213
Vietnam	DM050		Cat Tien National Park	11.4166667	107.4283333	KY823214
Vietnam	DM051	ROM 37630	Cat Tien National Park	11.4166667	107.4283333	KY823215
Vietnam	DM052	ROM 37629	Cat Tien National Park	11.4166667	107.4283333	KY823216
Vietnam	DM053	ROM 37627	Cat Tien National Park	11.4166667	107.4283333	KY823217

Vietnam	DM054		Cat Tien National Park	11.4166667	107.4283333	KY823218
Vietnam	DM055	ROM 37624	Cat Tien National Park	11.4166667	107.4283333	KY823219
Vietnam	DM056	ROM 37625	Cat Tien National Park	11.4166667	107.4283333	KY823220
Vietnam	DM057	ROM 33166	Krong Pa	14.3381666	108.4733333	KY823221
Vietnam	DM058	ROM 33163	Krong Pa	14.3381666	108.4733333	KY823222
Vietnam	DM059	ROM 33162	Krong Pa	14.3381666	108.4733333	KY823223
Vietnam	DM060	ROM 32540	Krong Pa	14.3381666	108.4733333	KY823224
Vietnam	DM061	ROM 28479	Tram Lap	14.44	108.3827778	KY823225
Vietnam	DM062	ROM 28480	Tram Lap	14.44	108.3827778	KY823226
Vietnam	DM064	ROM 25710	Hanoi	21.03333	105.81666	KY823227
Vietnam	DM065	ROM 27155	Hanoi	21.03333	105.81666	KY823228
Vietnam	DM066	ROM 27170	Hanoi	21.03333	105.81666	KY823229
Vietnam	DM067	ROM 27171	Hanoi	21.03333	105.81666	KY823230
Vietnam	DM068	ROM 27173	Hanoi	21.03333	105.81666	KY823231
Vietnam	DM069	ROM 27174	Hanoi	21.03333	105.81666	KY823232
Vietnam	DM070	ROM 27175	Hanoi	21.03333	105.81666	KY823233
Vietnam	DM072	ROM 27177	Hanoi	21.03333	105.81666	KY823234
Vietnam	DM073	ROM 27178	Hanoi	21.03333	105.81666	KY823235
Vietnam	DM074	ROM 27179	Hanoi	21.03333	105.81666	KY823236
Vietnam	DM075	ROM 27180	Hanoi	21.03333	105.81666	KY823237
Vietnam	DM076	ROM 27181	Hanoi	21.03333	105.81666	KY823238
Vietnam	DM077	ROM 27182	Hanoi	21.03333	105.81666	KY823239
Vietnam	DM078	ROM 27183	Hanoi	21.03333	105.81666	KY823240
Vietnam	DM079	ROM 27184	Hanoi	21.03333	105.81666	KY823241
Vietnam	DM080	ROM 27185	Hanoi	21.03333	105.81666	KY823242
Vietnam	DM081	ROM 27186	Hanoi	21.03333	105.81666	KY823243
Vietnam	DM082	ROM 27187	Hanoi	21.03333	105.81666	KY823244
Vietnam	DM083	ROM 27188	Hanoi	21.03333	105.81666	KY823245
Vietnam	DM084	ROM 27189	Hanoi	21.03333	105.81666	KY823246
Vietnam	DM085	ROM 27190	Hanoi	21.03333	105.81666	KY823247
Vietnam	DM086	ROM 25695	Hanoi, La Thanh Hotel	21.0355556	105.8194444	KY823248
Vietnam	DM087	ROM 25703	Hanoi, La Thanh Hotel	21.0355556	105.8194444	KY823249
Vietnam	DM088	ROM 25712	Hanoi; 18 km E near road to airport	21.19673	105.782713	KY823250
Vietnam	DM093	ROM 32521	Chi Linh vicinity; Hoang Hua Tham Village	21.2122222	106.4775	KY823251
Vietnam	DM094	ROM 36197	Chi Linh vicinity; Hoang Hua Tham Village	21.2122222	106.4775	KY823252
Vietnam	DM095	ROM 36196	Chi Linh vicinity; Hoang Hua Tham Village	21.2122222	106.4775	KY823253
Vietnam	DM096	ROM 36200	Chi Linh vicinity; Hoang Hua Tham Village	21.2122222	106.4775	KY823254
Vietnam	DM097	ROM 36198	Chi Linh vicinity; Hoang Hua Tham Village	21.2122222	106.4775	KY823255
Vietnam	DM098	ROM 36203	Chi Linh vicinity; Hoang Hua Tham Village	21.2122222	106.4775	KY823256
Vietnam	DM099		Hon Dat Mountain	10.105	104.89444	KY823257
Vietnam	DM100	ROM 47725	Hon Dat Mountain	10.105	104.89444	KY823258
Vietnam	DM101	ROM 25704	Cam Duong	22.4142024	104.0206146	KY823259
Vietnam	DM102	ROM 38085	Sa Pa vicinity	22.3155556	103.7763889	KY823260
Vietnam	DM103	ROM 38088	Sa Pa vicinity	22.3494444	103.7708333	KY823261
Vietnam	DM104	ROM 38090	Sa Pa vicinity	22.3494444	103.7708333	KY823262
Vietnam	DM106	ROM 38087	Sa Pa vicinity	22.3494444	103.7708333	KY823263
Vietnam	DM107	ROM 38083	Sa Pa vicinity	22.3494444	103.7708333	KY823264
Vietnam	DM108	ROM 38089	Sa Pa vicinity	22.3494444	103.7708333	KY823265
Vietnam	DM109	ROM 38084	Sa Pa vicinity	22.3163889	103.8211111	KY823266

Vietnam	DM110	ROM 25707	Con Cuong	19.0522222	104.8838889	KY823267
Vietnam	DM111	ROM 25708	Con Cuong	19.0522222	104.8836111	KY823268
Vietnam	DM112	ROM 25709	Con Cuong	19.0522222	104.8836111	KY823269
Vietnam	DM113	ROM 27191	Con Cuong	19.0513889	104.8836111	KY823270
Vietnam	DM114	ROM 27192	Con Cuong	19.0513889	104.8836111	KY823271
Vietnam	DM115	ROM 27193	Con Cuong	19.0513889	104.8836111	KY823272
Vietnam	DM116	ROM 27194	Con Cuong	19.0513889	104.8836111	KY823273
Vietnam	DM118	ROM 25711	Vinh vicinity	18.6713889	105.6741667	KY823274
Vietnam	DM119	ROM 28516	Pac Ban; Na Hang Nature Reserve	22.365	105.4111111	KY823275
Vietnam	DM120	ROM 28517	Pac Ban; Na Hang Nature Reserve	22.365	105.4111111	KY823276
Vietnam	DM132	ROM 28509	Pac Ban; Na Hang Nature Reserve	22.365	105.4111111	KY823277
Vietnam	DM133	ROM 28510	Pac Ban; Na Hang Nature Reserve	22.365	105.4111111	KY823278
Vietnam	DM134	ROM 28511	Pac Ban; Na Hang Nature Reserve	22.365	105.4111111	KY823279
Vietnam	DM135	ROM 28512	Pac Ban; Na Hang Nature Reserve	22.365	105.4111111	KY823280
Vietnam	DM136	ROM 28513	Pac Ban; Na Hang Nature Reserve	22.365	105.4111111	KY823281
Vietnam	DM137	ROM 28515	Pac Ban; Na Hang Nature Reserve	22.365	105.4111111	KY823282
Vietnam	DM138	ROM 28518	Pac Ban; Na Hang Nature Reserve	22.365	105.4111111	KY823283
Vietnam	DM139	ROM 28482	Pac Ban; Na Hang Nature Reserve	22.365	105.4111111	KY823284
Vietnam	DM140	ROM 28506	Pac Ban; Na Hang Nature Reserve	22.365	105.4111111	KY823285
Vietnam	DM148	ROM 28495	Tam Dao	21.4541667	105.6413889	KY823286
Vietnam	DM150	ROM 25706	Yen Bai vicinity; purchased but collected within 5 km of Yen Bai	21.7397222	104.9405556	KY823287
Vietnam	SL132		Bai Tu Long	21.02	107.277	KY823288
Vietnam	SL137		Tan Lai	19.03	105.5	KY823289

Supplementary Table S3. List of Worldclim-Bioclim variables used for SDMs.

Number of variable	Explanation
BIO1	Annual Mean Temperature
BIO2	Mean Diurnal Range (Mean of monthly (max temp - min temp))
BIO3	Isothermality (P2/P7) (* 100)
BIO4	Temperature Seasonality (standard deviation *100)
BIO5	Max Temperature of Warmest Month
BIO6	Min Temperature of Coldest Month
BIO7	Temperature Annual Range (P5-P6)
BIO8	Mean Temperature of Wettest Quarter
BIO9	Mean Temperature of Driest Quarter
BIO10	Mean Temperature of Warmest Quarter
BIO11	Mean Temperature of Coldest Quarter
BIO12	Annual Precipitation
BIO13	Precipitation of Wettest Month
BIO14	Precipitation of Driest Month
BIO15	Precipitation Seasonality (Coefficient of Variation)
BIO16	Precipitation of Wettest Quarter
BIO17	Precipitation of Driest Quarter
BIO18	Precipitation of Warmest Quarter
BIO19	Precipitation of Coldest Quarter

Supplementary Table S4. Results of niche similarity testing. The niche similarity test is a uni-directional test and measures whether or not the environmental space occupied, or any part of it, in one distribution is similar to the other. We measured Warren’s D values in environmental space. The values characterize niche overlap, with complete overlap being represented by 1 and no overlap being 0.

Niche Similarity comparisons	p-val	D-val
All populations' climates are similar* to Madagascar populations	0.559	0.59
Madagascar populations' climate is similar* to all populations	0.012	0.03
The SE Asian lineage’s climate is similar* to Madagascar populations	0.563	0.02
Madagascar populations's climate are similar* to the individuals in the SE Asian lineage	0.046	0.03
All populations' climate is similar* to populations from the SE Asian lineage	0.002	0.59
The SE Asian lineage’s climate is similar* to all populations	0.002	0.02

Supplementary Table S5. Locality records of the SE Asian clade of *Duttaphrynus melanostictus* from its native range in Asia, confirmed by molecular data and used for the 'invasive clade' SDM. The last column indicates whether the samples from the respective locality belong to haplogroup H1, or to haplotype H1a (identical to the Malagasy populations). N is the number of samples sequenced. Note that for modelling, a few additional records from within this range, based on unpublished observations of the authors, were used.

Country	Locality description	Latitude	Longitude	N	Hap
Cambodia	Bayon Temple, Angkor Wat complex, 13°26'30"N 103°51'46"E, <10m	13.44166667	103.86277778	1	H1
Cambodia	Bokor National Park, SE Cardamom Mountains, 10°37'35"N 104°01'30"E, 1000m	10.62638889	104.025	1	H1
Cambodia	Cardamom Mountains, Phnom Chan Mountain, 11°26'30"N 103°47'00"E, 100-200m	11.44166667	103.78333333	1	H1
Cambodia	Kampot Province, Bokor National Park, field station	10.62638889	104.025	1	H1
Cambodia	Kampot, Kampot province	10.61666667	104.333334	1	H1
Cambodia	Kantrieng commune, Tatrow village., <10m	13.33944444	104.1019444	1	H1
Cambodia	Kirirom National Park, near 11°19'14"N 104°04'56"E, 700m	11.32055556	104.0822222	1	H1
Cambodia	Koh Rong, Broken Heart Guest House	10.677	103.261	5	H1
Cambodia	Phnom Bokar	10.63205	104.01905	1	H1
Cambodia	Phnom Kulen Hill Range, 400m	13.567	104.145	5	H1
Cambodia	Phnom Penh	11.56923333	104.9244167	5	H1
Cambodia	Pursat Province, near O'Som	12.068	103.1585	1	H1
Cambodia	Samling Logging Concession, Keo Seima camp, 12°08'16.0"N 106°54'54.8"E, 160m	12.13777778	106.9152222	1	H1
Cambodia	Samling Logging Concession, near 12°16'45.7"N 106°56'36.4"E, 180m	12.27936111	106.9434444	1	H1a
Cambodia	Siem Reap town <10m	13.37361111	104.8438889	1	H1
Cambodia	Tbeng Meanchey, Lac de barrage, Prae Vihear province, 50 m	13.7702667	104.9505	1	H1
Cambodia	Virachey National Park, near 14°16'34.8"N 106°32'10.5"E, 200m	14.27633333	106.53625	1	H1
Cambodia	Virachey National Park, small tributary of O Lopeung stream, 14°11'16.3"N 107°17'36.1"E, 160m	14.18786111	107.2933611	1	H1
China	Baiyun Mountain, Guangzhou City	23.202	113.303	5	
China	Bawaling Nature Reserve	19.35966667	109.0386666	1	
China	Diao Luo Shan Forest Park	18.72472	109.86861	1	
China	Hong Kong	22.41	114.12	10	
China	Hongzha River near Louma	19.13446667	109.9570667	1	
China	Kangle Hot Springs, creek below resort	18.70222	109.66111	1	
China	Longling County, Mengzhai River	24.2385	99.00338889	1	
China	Luofu Mountain, Lianhe Village, Zhengguo Town, Huizhou City	23.278	113.915	5	
China	on road to Jian Feng Ling Nature Reserve	18.3086	109.2885	5	
China	Shiwan Dashang Nature Reserve (Near town of Fulong)	21.8462333	107.8891333	1	
China	Shiwan Dashang Nature Reserve (Near town of Wang Le)	21.8615167	107.85985	1	
China	Simao, 12.3 km SE of Simao	22.4313	101.0328	1	
China	Simao, 8.8 km W of Simao	22.4724	100.5309	1	
China	Town of Wang Le	21.85745	107.86166	1	

China	Yunnan Institute Forest Tropical Botany, Menglung	21.91667	101.25	1	
China		23.06	104.72	10	
Laos	Dong Khanthung National Biodiversity Conservation Area, near Ban Nong Som Hong village, 14°17'N 105°40'E, 100m	14.28333333	105.6666667	1	H1
Laos	east of Mekong River, near Ban Namon village, 19°04'39"N 102°08'44"E, 200-300m	19.0775	102.1455556	1	
Laos	Nam Ha National Protected Area, Nam Maye Stream, near 20°52'08.0"N 101°03'19.0"E, 1000m elev.	20.86888889	101.0552778	1	
Laos	NE of Paksong	15.201	106.286	5	H1
Laos	Phou Dendin National Biodiversity Conservation Area, near Nam Khang River, near 22°09'04"N 102°12'19"E, 600m	22.16083333	102.2052778	1	
Laos	Phou Hin Poun National Biodiversity Conservation Area, Ban Vieng village, 17°20'N 104°57'E, 200m	17.33333333	104.95	1	H1
Laos	Sepon Mining Tenement	16.9586	106.05	1	H1
Laos	Sepon Mining Tenement	16.9671	105.8137	1	H1
Laos	Sepon Mining Tenement	16.9417	106.0541	1	H1
Laos	Vientiane city, 17°58'41"N 102°39'16"E, 190m	17.97805556	102.6544444	1	H1
Laos	west of Mekong River, near 18°54'08"N 101°34'30"E, 250-400m	18.90222222	101.575	1	
Malaysia	Cameron Highlands	4.4709	101.3764	1	H1
Malaysia	Kedah, Pulau Langkawi, Lubuk Semilang	6.369	99.802	5	H1
Malaysia	Pulau Langkawi	6.36667	99.8	5	H1
Malaysia	Pulau Penang	5.39992	100.23884	1	H1
Myanmar	Kyaitong Township, Loi Mwe Region, Naung Cho village, border of Loi Mwe Wildlife Sanctuary, 21 12 27.1 N, 99 44 14.6 E.	17.04677778	96.11038889	1	
Myanmar	Mine Pyin Township, S of Mine Pyin Town, 21 20 14.5 N, 99 02 11.2 E	21.20752778	99.73738889	1	
Myanmar	Yarngan Township, Panlaung-Pyadalin Cave Wildlife Sanctuary, Pyadalin Cave, 21 07 58.4 N, 96 20 25.0 E	21.13288889	96.34027778	1	
Taiwan	Mt. Chan-chu, Taipei City	25.0085	121.5438056	1	
Thailand	Doi Chiang Dao, Chiang Mai province, 570 m	19.283333	98.95	5	
Thailand	Huay Yang National Park	11.58333333	99.55	5	H1
Thailand	Kaeng Krung National Park	9.3	98.86666667	1	H1
Thailand	Ngao Falls National Park	9.933333333	98.71666667	1	H1
Thailand	Pang Si Da National Park, headquarters, 13°58'58.1"N 102°12'16.6"E, 90m	13.98280556	102.2046111	1	H1
Thailand	Pang Si Da National Park, Pang Si Da waterfall, Nam Keo River, 13°59'42.9"N 102°12'23.3"E, 180m	13.99525	102.2064722	1	H1
Thailand	Phu Jong-Na Yoi National Park, headquarters, 14°26'05.2"N 105°15'12.8"E, 230m	14.43477778	105.2535556	1	H1
Thailand	Phu Luang Wildlife Sanctuary, Phu Luang Wildlife Research Station, 17°20'42.8"N 101°30'27.9"E, 940m	17.34522222	101.50775	1	H1
Thailand	Phu Wua Wildlife Sanctuary, park headquarters, 18°14'47.3"N 103°57'44.6"E, 175m	18.24647222	103.9623889	1	H1
Thailand	Phuket Marine Biological Center, on southern tip of Phuket Island, 07°48'02"N 98°24'34"E	7.800555556	98.40944444	1	H1
Thailand	Sa Nang Manora Forest Park, Phang Nga province,	8.5105556	98.5422222	1	H1
Vietnam	Ba Be National Park	22.4175	105.6341667	1	
Vietnam	Bai Tu Long	21.02	107.277	1	
Vietnam	Cam Duong	22.4142024	104.0206146	1	
Vietnam	Cat Tien National Park	11.4166667	107.4283333	1	H1a
Vietnam	Chi Linh vicinity; Hoang Hua Tham Village	21.2122222	106.4775	1	
Vietnam	Con Cuong	19.0522222	104.8838889	1	

Vietnam	Con Cuong	19.0513889	104.8836111	1	
Vietnam	Hanoi	21.03333	105.81666	5	
Vietnam	Hanoi, La Thanh Hotel	21.0355556	105.8194444	1	
Vietnam	Hanoi; 18 km E near road to airport	21.19673	105.782713	1	
Vietnam	Hon Ba, Khank Hoa province, 65 m	12.13168	109.03278	1	H1
Vietnam	Hon Dat Mountain	10.105	104.89444	1	H1
Vietnam	Huu Lien, Longson Province, 70 m	21.5056	106.3446	1	
Vietnam	Krong Pa	14.3381666	108.4733333	1	H1
Vietnam	Pac Ban; Na Hang Nature Reserve	22.365	105.4111111	1	
Vietnam	Phu Quoc	10.215033	103.973783	1	H1
Vietnam	Quang Thanh Village	22.6286111	105.9127778	1	
Vietnam	Sa Pa vicinity	22.3155556	103.7763889	1	
Vietnam	Sa Pa vicinity	22.3494444	103.7708333	1	
Vietnam	Sa Pa vicinity	22.3494444	103.7708333	1	
Vietnam	Sa Pa vicinity	22.3163889	103.8211111	1	
Vietnam	Saigon Zoo	10.788139	106.705749	1	H1a
Vietnam	Sapa, main Camp, 1250 m	22.33	103.821	5	
Vietnam	Tam Dao	21.4541667	105.6413889	1	
Vietnam	Tan Lai	19.03	105.5	10	
Vietnam	Tram Lap	14.44	108.3827778	1	H1
Vietnam	U Minh Thuong Nature Reserve, 09°32'40"N 105°05'11"E, <10m	9.544444444	105.0863889	1	H1
Vietnam	U Minh Thuong Nature Reserve, 09°34'39"N 105°03'03"E, <10m	9.5775	105.0508333	1	H1
Vietnam	U Minh Thuong Nature Reserve, 09°35'45"N 105°06'36"E, <10m	9.595833333	105.11	1	H1
Vietnam	Vinh vicinity	18.6713889	105.6741667	1	
Vietnam	Yen Bai vicinity; purchased but collected within 5 km of Yen Bai	21.7397222	104.9405556	1	
Vietnam	Yok Don National Park; 2.5km SSW of park HQ	12.8327778	107.8091667	1	H1
Vietnam	Yok Don National Park; 8 km W of Park HQ	12.8533333	107.7933333	1	H1
Vietnam	Yok Don National Park; Dak Ken River Camp; forest path W of camp, N of Yok Don Mt.	12.8672222	107.7075	1	H1
Vietnam	Yok Don National Park; vicinity of Park HQ	12.8536111	107.8133333	1	H1