

Supplementary data

El-Gabbas A., Baha El Din S., Zalat S., Gilbert F.
(2016) **Conserving Egypt's reptiles under climate change**. *Journal of Arid Environments* 127:211–221.

DOI: [10.1016/j.jaridenv.2015.12.007](https://doi.org/10.1016/j.jaridenv.2015.12.007)

Table S1: A list of species used in this study (with the number of records for each species), their classification according to IUCN guidelines and criteria (global and national status), and distribution status worldwide and in Egypt, models' mean (\pm sd) AUC scores of 10 folds cross-validation, and the final weighting used to run prioritization analyses.

N	Species	# records	Global IUCN	Egypt National IUCN	World status	Egypt Status	Mean AUC \pm SD	Weighting score
1	<i>Cyrtopodion scabrum</i>	37	LC	LC	Narrow	Widespread	0.951 \pm 0.097	2
2	<i>Hemidactylus flaviviridis</i>	31	NA	VU (D2) ¹	Narrow	Narrow	0.961 \pm 0.105	8
3	<i>Hemidactylus robustus</i>	40	NA	VU (D2)	Narrow	Narrow	0.899 \pm 0.289	8
4	<i>Hemidactylus turcicus</i>	217	LC	LC	Widespread	Widespread	0.955 \pm 0.021	1
5	<i>Pristurus flavipunctatus</i>	80	NA	VU (D2) ²	Narrow	Narrow	0.991 \pm 0.004	8
6	<i>Ptyodactylus guttatus</i>	115	NA	LC	Narrow	Narrow	0.953 \pm 0.026	4
7	<i>Ptyodactylus hasselquistii</i>	225	NA	LC	Narrow	Widespread	0.932 \pm 0.031	2
8	<i>Ptyodactylus siphonorhina</i>	180	NA	LC	Restricted	Widespread	0.781 \pm 0.09	3
9	<i>Stenodactylus mauritanicus</i>	35	NA	VU (D2)	Restricted	localized	0.989 \pm 0.012	18
10	<i>Stenodactylus petrii</i>	60	NA	LC	Narrow	Widespread	0.939 \pm 0.034	2
11	<i>Stenodactylus sthenodactylus</i>	268	NA	LC	Narrow	Widespread	0.85 \pm 0.041	2
12	<i>Tarentola annularis</i>	324	NA	LC	Narrow	Widespread	0.906 \pm 0.046	2
13	<i>Tarentola mauritanica</i>	342	LC	LC	Widespread	Narrow	0.978 \pm 0.014	2
14	<i>Tarentola mindiae</i>	43	LC	VU (D2) ³	Near-Endemic	Narrow	0.97 \pm 0.019	16
15	<i>Tropicolotes bisharicus</i>	20	NA	VU (D2)	Near-Endemic	Narrow	0.986 \pm 0.017	16
16	<i>Tropicolotes nattereri</i>	34	NA	LC	Narrow	Narrow	0.975 \pm 0.015	4

N	Species	# records	Global IUCN	Egypt National IUCN	World status	Egypt Status	Mean AUC ± SD	Weighting score
17	<i>Tropicolotes steudneri</i>	197	NA	LC	Narrow	Widespread	0.879 ± 0.037	2
18	<i>Tropicolotes tripolitanus</i>	24	LC	LC	Narrow	Narrow	0.95 ± 0.036	4
19	<i>Agama spinosa</i>	113	LC	LC	Narrow	Narrow	0.964 ± 0.019	4
20	<i>Laudakia stellio</i>	458	NA	LC	Narrow	Narrow	0.983 ± 0.008	4
21	<i>Pseudotrapelus sinaitus</i>	117	NA	LC	Narrow	Widespread	0.881 ± 0.08	2
22	<i>Trapelus mutabilis</i>	299	NA	LC	Narrow	Widespread	0.947 ± 0.026	2
23	<i>Trapelus pallidus</i>	173	NA	LC	Narrow	Widespread	0.943 ± 0.036	2
24	<i>Trapelus savignii</i>	86	VU (A2abcd)	VU (D2) ⁴	Near-Endemic	Narrow	0.982 ± 0.007	32
25	<i>Uromastyx aegyptia</i>	82	NA	LC	Narrow	Widespread	0.945 ± 0.022	2
26	<i>Uromastyx ocellata</i>	56	LC	EN (B2 a,b i)	Narrow	Narrow	0.923 ± 0.077	12
27	<i>Uromastyx ornata</i>	16	NA	VU (D2) ⁵	Restricted	localized	0.99 ± 0.005	18
28	<i>Chamaeleo africanus</i>	72	NA	EN (B2 a,b i,iv) ⁶	Narrow	Narrow	0.963 ± 0.043	12
29	<i>Chamaeleo chamaeleon</i>	262	NA	LC	Widespread	Narrow	0.976 ± 0.013	2
30	<i>Acanthodactylus aegyptius</i>	167	NA	LC	Near-Endemic	Widespread	0.936 ± 0.05	4
31	<i>Acanthodactylus boskianus</i>	1414	NA	LC	Narrow	Widespread	0.889 ± 0.02	2
32	<i>Acanthodactylus longipes</i>	50	NA	VU (D2)	Narrow	Widespread	0.962 ± 0.022	4
33	<i>Acanthodactylus pardalis</i>	191	VU - (A2c; B1ab (i,ii,iii))	VU (D2) ⁷	Restricted	Narrow	0.983 ± 0.017	24
34	<i>Acanthodactylus scutellatus</i>	406	NA	LC	Narrow	Widespread	0.859 ± 0.03	2

N	Species	# records	Global IUCN	Egypt National IUCN	World status	Egypt Status	Mean AUC \pm SD	Weighting score
35	<i>Mesalina bahaeldini</i>	98	LC	VU (D2)	Endemic	localized	0.978 \pm 0.023	24
36	<i>Mesalina guttulata</i>	216	NA	LC	Narrow	Widespread	0.845 \pm 0.055	2
37	<i>Mesalina olivieri</i>	172	NA	LC	Narrow	Widespread	0.951 \pm 0.042	2
38	<i>Mesalina pasteuri</i>	19	NA	VU (D2)	Narrow	localized	0.993 \pm 0.007	12
39	<i>Mesalina rubropunctata</i>	129	NA	LC	Narrow	Widespread	0.839 \pm 0.071	2
40	<i>Ophisops occidentalis</i>	28	LC	VU (D2)	Restricted	localized	0.992 \pm 0.006	18
41	<i>Varanus griseus</i>	141	NA	LC	Narrow	Widespread	0.892 \pm 0.04	2
42	<i>Varanus niloticus</i>	24	NA	VU (D2)	narrow	localized	0.985 \pm 0.021	12
43	<i>Chalcides cf. humilis</i>	37	NA	LC ⁸	Narrow	Widespread	0.87 \pm 0.155	4
44	<i>Chalcides ocellatus</i>	596	NA	LC	Widespread	Widespread	0.952 \pm 0.015	1
45	<i>Eumeces schneiderii</i>	188	NA	LC	Narrow	Narrow	0.961 \pm 0.043	4
46	<i>Scincus scincus</i>	376	NA	LC	Narrow	Widespread	0.87 \pm 0.08	2
47	<i>Sphenops sepsoides</i>	367	LC	LC	Restricted	Widespread	0.92 \pm 0.027	3
48	<i>Trachylepis quinquetaeniata</i>	318	NA	LC	Narrow	Widespread	0.956 \pm 0.021	2
49	<i>Trachylepis vittata</i>	17	LC	VU (D2)	Narrow	Narrow	0.988 \pm 0.012	8
50	<i>Leptotyphlops cairi</i>	218	NA	EN (B2 a,b i)	Narrow	Narrow	0.948 \pm 0.058	12
51	<i>Leptotyphlops macrorhynchus</i>	17	NA	VU (D2)	Narrow	Narrow	0.926 \pm 0.113	8
52	<i>Eryx colubrinus</i>	51	NA	VU (D2)	Narrow	Narrow	0.91 \pm 0.113	8

N	Species	# records	Global IUCN	Egypt National IUCN	World status	Egypt Status	Mean AUC ± SD	Weighting score
53	<i>Eryx jaculus</i>	44	NA	LC ⁹	Widespread	Narrow	0.982 ± 0.012	2
54	<i>Eirenis coronella</i>	22	NA	VU (D2)	Narrow	localized	0.985 ± 0.018	12
55	<i>Lytorhynchus diadema</i>	144	NA	LC	Narrow	Widespread	0.894 ± 0.047	2
56	<i>Macroprotodon cucullatus</i>	53	LC	VU (D2)	Widespread	Narrow	0.985 ± 0.023	4
57	<i>Malpolon moilensis</i>	51	NA	LC	Narrow	Widespread	0.874 ± 0.076	2
58	<i>Malpolon monspessulanus</i>	170	LC	LC	Widespread	Narrow	0.98 ± 0.017	2
59	<i>Natrix tessellata</i>	96	LC	VU (D2)	Widespread	localized	0.978 ± 0.012	6
60	<i>Platyceps florulentus</i>	127	LC	LC	Narrow	localized	0.957 ± 0.027	6
61	<i>Platyceps rogersi</i>	45	NA	LC	Narrow	Widespread	0.943 ± 0.071	2
62	<i>Platyceps saharicus</i>	34	NA	LC	Narrow	Narrow	0.882 ± 0.097	4
63	<i>Psammophis aegyptius</i>	183	NA	LC	Narrow	Widespread	0.84 ± 0.055	2
64	<i>Psammophis schokari</i>	371	NA	LC	Narrow	Widespread	0.934 ± 0.03	2
65	<i>Psammophis sibilans</i>	283	LC	LC	Narrow	Narrow	0.979 ± 0.009	4
66	<i>Spalerosophis diadema</i>	216	NA	LC	Widespread	Widespread	0.935 ± 0.036	1
67	<i>Telescopus dhara</i>	56	NA	LC	Narrow	Narrow	0.936 ± 0.074	4
68	<i>Naja haje</i>	60	NA	LC	Narrow	Narrow	0.961 ± 0.026	4
69	<i>Naja nubiae</i>	14	NA	VU (D2)	Restricted	Narrow	0.897 ± 0.214	12
70	<i>Walterinnesia aegyptia</i>	17	NA	VU (D2)	Restricted	Narrow	0.887 ± 0.075	12

N	Species	# records	Global IUCN	Egypt National IUCN	World status	Egypt Status	Mean AUC ± SD	Weighting score
71	<i>Cerastes cerastes</i>	233	NA	LC	Narrow	Widespread	0.838 ± 0.044	2
72	<i>Cerastes vipera</i>	551	NA	LC	Narrow	Widespread	0.922 ± 0.038	2
73	<i>Echis coloratus</i>	50	NA	LC	Narrow	Widespread	0.878 ± 0.11	2
74	<i>Echis pyramidum</i>	59	NA	LC	Narrow	Widespread	0.917 ± 0.128	2
75	<i>Testudo kleinmanni</i>	63	CE (A2 abcd + 3d)	VU (D2) ¹⁰	Near-Endemic	Narrow	0.969 ± 0.026	48

1. *Hemidactylus flaviviridis*: a very densely populated species and likely to be associated with man.
2. *Pristurus flavipunctatus*: based on its narrow habitat, strict containment in natural habitats, low densities, and high vulnerability of habitat, it does fit the VU category.
3. *Tarentola mindiae*: based on its current distribution, it has quite a large range but a rather narrow habitat. It may be reasonable to be classified at higher threat level (possibly Near Threatened "NT").
4. *Trapelus savignii*: expected to have higher threat level.
5. *Uromastyx ornata*: suggested to have a lower threat level even though its range in Egypt is very small and its population size is smaller as well.
6. *Chamaeleo africanus*: Could be of lower threat category due to its large range in Egypt (essentially the whole Nile Valley) and quite dense populations which are expanding rapidly. It also has a very large African range; even invaded parts of Greece.
7. *Acanthodactylus pardalis*: should have a greater threat level. It is practically extinct!
8. *Chalcides cf. humilis*: more recent data indicate its very widespread distribution in Egypt, it occupies a range equal or greater than that of *C. ocellatus*.
9. *Eryx jaculus*: should be classified at a higher threat status than *E.colubrinus* or at least equal to it. It is almost extinct from Egypt.
10. *Testudo kleinmanni*: in reality it may be extinct.

Table S2: Species classification according to future species range change (percentage of suitable habitats lost or gained - assuming unlimited dispersal).

Abbreviations used: Critically Endangered "CR": loss>80%; Endangered "EN": loss 50-80%; Vulnerable "VU": loss 30-50%; Least Concern "LC": loss<30 %; Gain 1: gain <30%; Gain 2: gain 30-50%; Gain 3: gain 50-80%; Gain 4: gain 80-100%; Gain 5: gain >100%.

#	Species	A2 2020	A2 2050	A2 2080	B2 2020	B2 2050	B2 2080
1	<i>Cyrtopodion scabrum</i>	Gain 5	Gain 5	Gain 5	Gain 5	Gain 5	Gain 5
2	<i>Hemidactylus flaviviridis</i>	Gain 5	Gain 5	Gain 5	Gain 5	Gain 5	Gain 5
3	<i>Hemidactylus robustus</i>	CR	CR	EN	EN	CR	CR
4	<i>Hemidactylus turcicus</i>	Gain 2	Gain 3	Gain 3	Gain 2	Gain 3	Gain 3
5	<i>Pristurus flavipunctatus</i>	EN	EN	EN	VU	EN	EN
6	<i>Ptyodactylus guttatus</i>	VU	EN	CR	EN	EN	EN
7	<i>Ptyodactylus hasselquistii</i>	Gain 1	Gain 3	Gain 5	Gain 1	Gain 4	Gain 5
8	<i>Ptyodactylus siphonorhina</i>	LC	VU	EN	LC	VU	EN
9	<i>Stenodactylus mauritanicus</i>	Gain 1	Gain 1	Gain 1	Gain 1	Gain 1	Gain 1
10	<i>Stenodactylus petrii</i>	LC	LC	VU	Gain 1	LC	LC
11	<i>Stenodactylus sthenodactylus</i>	Gain 4	Gain 5	Gain 5	Gain 4	Gain 5	Gain 5
12	<i>Tarentola annularis</i>	Gain 4	Gain 5	Gain 5	Gain 5	Gain 5	Gain 5
13	<i>Tarentola mauritanica</i>	Gain 1	VU	EN	LC	VU	EN
14	<i>Tarentola mindiae</i>	EN	CR	CR	EN	CR	CR
15	<i>Tropicolotes bisharicus</i>	LC	Gain 1	LC	Gain 1	LC	LC
16	<i>Tropicolotes nattereri</i>	Gain 3	Gain 5	Gain 5	Gain 5	Gain 5	Gain 5
17	<i>Tropicolotes steudneri</i>	Gain 1	Gain 1	Gain 1	Gain 1	Gain 1	Gain 1
18	<i>Tropicolotes tripolitanus</i>	LC	LC	VU	LC	VU	VU
19	<i>Agama spinosa</i>	LC	LC	EN	LC	VU	EN
20	<i>Laudakia stellio</i>	Gain 1	LC	EN	Gain 3	Gain 1	LC
21	<i>Pseudotrapelus sinaitus</i>	Gain 1	Gain 3	Gain 4	Gain 1	Gain 3	Gain 3
22	<i>Trapelus mutabilis</i>	VU	EN	CR	VU	EN	CR
23	<i>Trapelus pallidus</i>	Gain 2	Gain 3	Gain 4	Gain 1	Gain 3	Gain 3
24	<i>Trapelus savignii</i>	Gain 1	Gain 4	Gain 5	Gain 1	Gain 3	Gain 5
25	<i>Uromastyx aegyptia</i>	LC	VU	EN	VU	VU	VU
26	<i>Uromastyx ocellata</i>	LC	LC	VU	LC	LC	VU
27	<i>Uromastyx ornata</i>	Gain 5	Gain 5	Gain 5	Gain 5	Gain 5	Gain 5
28	<i>Chamaeleo africanus</i>	Gain 2	Gain 3	Gain 5	Gain 1	Gain 1	Gain 3
29	<i>Chamaeleo chamaeleon</i>	Gain 4	Gain 5	Gain 5	Gain 4	Gain 5	Gain 5
30	<i>Acanthodactylus aegyptius</i>	LC	LC	VU	LC	LC	VU
31	<i>Acanthodactylus boskianus</i>	Gain 1	Gain 1	Gain 2	Gain 1	Gain 1	Gain 1
32	<i>Acanthodactylus longipes</i>	LC	VU	EN	Gain 1	VU	EN
33	<i>Acanthodactylus pardalis</i>	Gain 2	Gain 3	Gain 1	Gain 3	Gain 3	Gain 2
34	<i>Acanthodactylus scutellatus</i>	Gain 2	Gain 3	Gain 3	Gain 2	Gain 3	Gain 3
35	<i>Mesalina bahaeldini</i>	Gain 2	Gain 1	Gain 1	Gain 1	Gain 2	Gain 1
36	<i>Mesalina guttulata</i>	Gain 2	Gain 3	Gain 5	Gain 2	Gain 3	Gain 5
37	<i>Mesalina olivieri</i>	Gain 4	Gain 5	Gain 5	Gain 5	Gain 5	Gain 5

#	Species	A2 2020	A2 2050	A2 2080	B2 2020	B2 2050	B2 2080
38	<i>Mesalina pasteuri</i>	LC	Gain 3	Gain 5	LC	Gain 3	Gain 5
39	<i>Mesalina rubropunctata</i>	Gain 3	Gain 5	Gain 5	Gain 3	Gain 5	Gain 5
40	<i>Ophisops occidentalis</i>	Gain 1	LC	LC	Gain 1	Gain 1	LC
41	<i>Varanus griseus</i>	Gain 1	Gain 3	Gain 4	Gain 1	Gain 3	Gain 3
42	<i>Varanus niloticus</i>	Gain 5	Gain 5	Gain 5	Gain 5	Gain 5	Gain 5
43	<i>Chalcides cf. humilis</i>	Gain 5	Gain 5	Gain 5	Gain 5	Gain 5	Gain 5
44	<i>Chalcides ocellatus</i>	Gain 1	Gain 1	Gain 1	Gain 1	Gain 1	Gain 1
45	<i>Eumeces schneiderii</i>	LC	EN	CR	LC	EN	CR
46	<i>Scincus scincus</i>	LC	LC	VU	Gain 1	LC	VU
47	<i>Sphenops sepsoides</i>	Gain 1	Gain 1	EN	Gain 1	Gain 1	LC
48	<i>Trachylepis quinquetaeniata</i>	Gain 3	Gain 5	Gain 5	Gain 3	Gain 5	Gain 5
49	<i>Trachylepis vittata</i>	Gain 3	Gain 5	Gain 5	Gain 3	Gain 5	Gain 5
50	<i>Leptotyphlops cairi</i>	Gain 1	Gain 3	Gain 5	Gain 1	Gain 2	Gain 4
51	<i>Leptotyphlops macrorhynchus</i>	LC	VU	EN	LC	VU	EN
52	<i>Eryx colubrinus</i>	Gain 1	Gain 1	Gain 3	Gain 1	Gain 1	Gain 2
53	<i>Eryx jaculus</i>	VU	EN	CR	VU	EN	EN
54	<i>Eirenis coronella</i>	Gain 2	Gain 1	LC	Gain 3	Gain 2	Gain 1
55	<i>Lytorhynchus diadema</i>	Gain 1	LC	LC	Gain 1	Gain 1	LC
56	<i>Macroprotodon cucullatus</i>	Gain 2	Gain 3	Gain 5	Gain 2	Gain 3	Gain 3
57	<i>Malpolon moilensis</i>	VU	EN	CR	EN	EN	CR
58	<i>Malpolon monspessulanus</i>	Gain 1	LC	VU	Gain 1	LC	VU
59	<i>Natrix tessellata</i>	Gain 1	Gain 1	Gain 2	Gain 1	Gain 1	Gain 2
60	<i>Platyceps florulentus</i>	Gain 1	Gain 1	Gain 2	Gain 1	Gain 2	Gain 1
61	<i>Platyceps rogersi</i>	Gain 3	Gain 5	Gain 5	Gain 2	Gain 4	Gain 5
62	<i>Platyceps saharicus</i>	LC	Gain 1	Gain 2	LC	Gain 1	Gain 1
63	<i>Psammophis aegyptius</i>	Gain 2	Gain 1	Gain 1	Gain 1	Gain 2	Gain 1
64	<i>Psammophis schokari</i>	Gain 1	LC	EN	Gain 1	Gain 1	VU
65	<i>Psammophis sibilans</i>	LC	LC	Gain 1	LC	LC	LC
66	<i>Spalerosophis diadema</i>	Gain 1	Gain 2	Gain 2	Gain 1	Gain 2	Gain 2
67	<i>Telescopus dhara</i>	LC	LC	VU	LC	VU	VU
68	<i>Naja haje</i>	LC	VU	EN	LC	VU	EN
69	<i>Naja nubiae</i>	Gain 3	Gain 5	Gain 3	Gain 4	Gain 3	Gain 5
70	<i>Walterinnesia aegyptia</i>	LC	VU	EN	VU	VU	VU
71	<i>Cerastes cerastes</i>	Gain 3	Gain 4	Gain 5	Gain 2	Gain 4	Gain 4
72	<i>Cerastes vipera</i>	Gain 1	VU	CR	LC	LC	EN
73	<i>Echis coloratus</i>	Gain 1	Gain 1	Gain 1	LC	LC	Gain 1
74	<i>Echis pyramidum</i>	LC	LC	LC	LC	LC	LC
75	<i>Testudo kleinmanni</i>	Gain 1	Gain 2	Gain 2	Gain 1	Gain 1	Gain 1

Table: S3: Species classification according to future species range change (percentage of suitable habitats lost - assuming no-dispersal).

Abbreviations used: Critically Endangered "CR": loss>80%; Endangered "EN": loss 50-80%; Vulnerable "VU": loss 30-50%; Least Concern "LC": loss<30 %.

#	Species	A2 2020	A2 2050	A2 2080	B2 2020	B2 2050	B2 2080
1	<i>Cyrtopodion scabrum</i>	LC	LC	LC	LC	LC	LC
2	<i>Hemidactylus flaviviridis</i>	LC	LC	LC	LC	LC	LC
3	<i>Hemidactylus robustus</i>	CR	CR	EN	EN	CR	CR
4	<i>Hemidactylus turcicus</i>	LC	LC	LC	LC	LC	LC
5	<i>Pristurus flavipunctatus</i>	EN	EN	EN	EN	EN	EN
6	<i>Ptyodactylus guttatus</i>	EN	EN	CR	EN	EN	CR
7	<i>Ptyodactylus hasselquistii</i>	LC	LC	LC	LC	LC	LC
8	<i>Ptyodactylus siphonorhina</i>	VU	EN	CR	VU	EN	EN
9	<i>Stenodactylus mauritanicus</i>	LC	LC	LC	LC	LC	LC
10	<i>Stenodactylus petrii</i>	LC	LC	VU	LC	LC	LC
11	<i>Stenodactylus sthenodactylus</i>	LC	LC	LC	LC	LC	LC
12	<i>Tarentola annularis</i>	LC	LC	LC	LC	LC	LC
13	<i>Tarentola mauritanica</i>	LC	VU	EN	LC	VU	EN
14	<i>Tarentola mindiae</i>	EN	CR	CR	EN	CR	CR
15	<i>Tropicolotes bisharicus</i>	LC	LC	VU	LC	LC	LC
16	<i>Tropicolotes nattereri</i>	LC	LC	LC	LC	LC	LC
17	<i>Tropicolotes steudneri</i>	LC	VU	EN	VU	VU	EN
18	<i>Tropicolotes tripolitanus</i>	LC	VU	VU	LC	VU	VU
19	<i>Agama spinosa</i>	LC	VU	EN	VU	VU	EN
20	<i>Laudakia stellio</i>	LC	VU	EN	LC	LC	VU
21	<i>Pseudotrapelus sinaitus</i>	LC	LC	LC	LC	LC	LC
22	<i>Trapelus mutabilis</i>	VU	CR	CR	EN	EN	CR
23	<i>Trapelus pallidus</i>	LC	LC	LC	LC	LC	LC
24	<i>Trapelus savignii</i>	LC	LC	LC	LC	LC	LC
25	<i>Uromastix aegyptia</i>	EN	EN	EN	EN	EN	EN
26	<i>Uromastix ocellata</i>	LC	LC	EN	LC	LC	VU
27	<i>Uromastix ornata</i>	LC	LC	LC	LC	LC	LC
28	<i>Chamaeleo africanus</i>	LC	LC	LC	LC	LC	LC
29	<i>Chamaeleo chamaeleon</i>	LC	LC	LC	LC	LC	LC
30	<i>Acanthodactylus aegyptius</i>	LC	VU	EN	LC	VU	VU
31	<i>Acanthodactylus boskianus</i>	LC	LC	LC	LC	LC	LC
32	<i>Acanthodactylus longipes</i>	VU	EN	CR	VU	EN	EN
33	<i>Acanthodactylus pardalis</i>	LC	LC	LC	LC	LC	LC
34	<i>Acanthodactylus scutellatus</i>	LC	LC	LC	LC	LC	LC
35	<i>Mesalina bahaeldini</i>	LC	LC	VU	LC	LC	LC
36	<i>Mesalina guttulata</i>	LC	LC	LC	LC	LC	LC
37	<i>Mesalina olivieri</i>	LC	LC	LC	LC	LC	LC
38	<i>Mesalina pasteyri</i>	VU	LC	LC	VU	VU	LC

#	Species	A2 2020	A2 2050	A2 2080	B2 2020	B2 2050	B2 2080
39	<i>Mesalina rubropunctata</i>	LC	LC	LC	LC	LC	LC
40	<i>Ophisops occidentalis</i>	LC	LC	VU	LC	LC	LC
41	<i>Varanus griseus</i>	LC	LC	LC	LC	LC	LC
42	<i>Varanus niloticus</i>	LC	LC	LC	LC	LC	LC
43	<i>Chalcides cf. humilis</i>	LC	LC	LC	LC	LC	LC
44	<i>Chalcides ocellatus</i>	LC	LC	VU	LC	LC	VU
45	<i>Eumeces schneiderii</i>	LC	EN	CR	LC	EN	CR
46	<i>Scincus scincus</i>	LC	VU	EN	LC	LC	VU
47	<i>Sphenops sepsoides</i>	LC	VU	EN	LC	VU	EN
48	<i>Trachylepis quinquetaeniata</i>	LC	LC	LC	LC	LC	LC
49	<i>Trachylepis vittata</i>	LC	LC	LC	LC	LC	LC
50	<i>Leptotyphlops cairi</i>	LC	LC	LC	LC	LC	LC
51	<i>Leptotyphlops macrorhynchus</i>	VU	VU	EN	VU	VU	EN
52	<i>Eryx colubrinus</i>	LC	LC	LC	LC	LC	LC
53	<i>Eryx jaculus</i>	VU	EN	CR	VU	EN	EN
54	<i>Eirenis coronella</i>	LC	LC	VU	LC	LC	LC
55	<i>Lytorhynchus diadema</i>	LC	LC	LC	LC	LC	LC
56	<i>Macroprotodon cucullatus</i>	LC	LC	LC	LC	LC	LC
57	<i>Malpolon moilensis</i>	EN	EN	CR	EN	EN	CR
58	<i>Malpolon monspessulanus</i>	LC	LC	VU	LC	LC	VU
59	<i>Natrix tessellata</i>	LC	LC	LC	LC	LC	LC
60	<i>Platyceps florulentus</i>	LC	LC	VU	LC	LC	VU
61	<i>Platyceps rogersi</i>	LC	LC	LC	LC	LC	LC
62	<i>Platyceps saharicus</i>	VU	VU	VU	VU	VU	EN
63	<i>Psammophis aegyptius</i>	LC	LC	LC	LC	LC	LC
64	<i>Psammophis schokari</i>	LC	VU	EN	LC	VU	VU
65	<i>Psammophis sibilans</i>	VU	VU	VU	VU	VU	EN
66	<i>Spalerosophis diadema</i>	LC	VU	VU	LC	VU	VU
67	<i>Telescopus dhara</i>	VU	EN	EN	VU	EN	EN
68	<i>Naja haje</i>	LC	VU	EN	LC	VU	EN
69	<i>Naja nubiae</i>	LC	LC	VU	LC	LC	LC
70	<i>Walterinnesia aegyptia</i>	LC	VU	EN	VU	VU	VU
71	<i>Cerastes cerastes</i>	LC	LC	LC	LC	LC	LC
72	<i>Cerastes vipera</i>	LC	EN	CR	LC	VU	EN
73	<i>Echis coloratus</i>	LC	LC	LC	LC	LC	LC
74	<i>Echis pyramidum</i>	LC	LC	VU	VU	LC	VU
75	<i>Testudo kleinmanni</i>	LC	LC	LC	LC	LC	LC

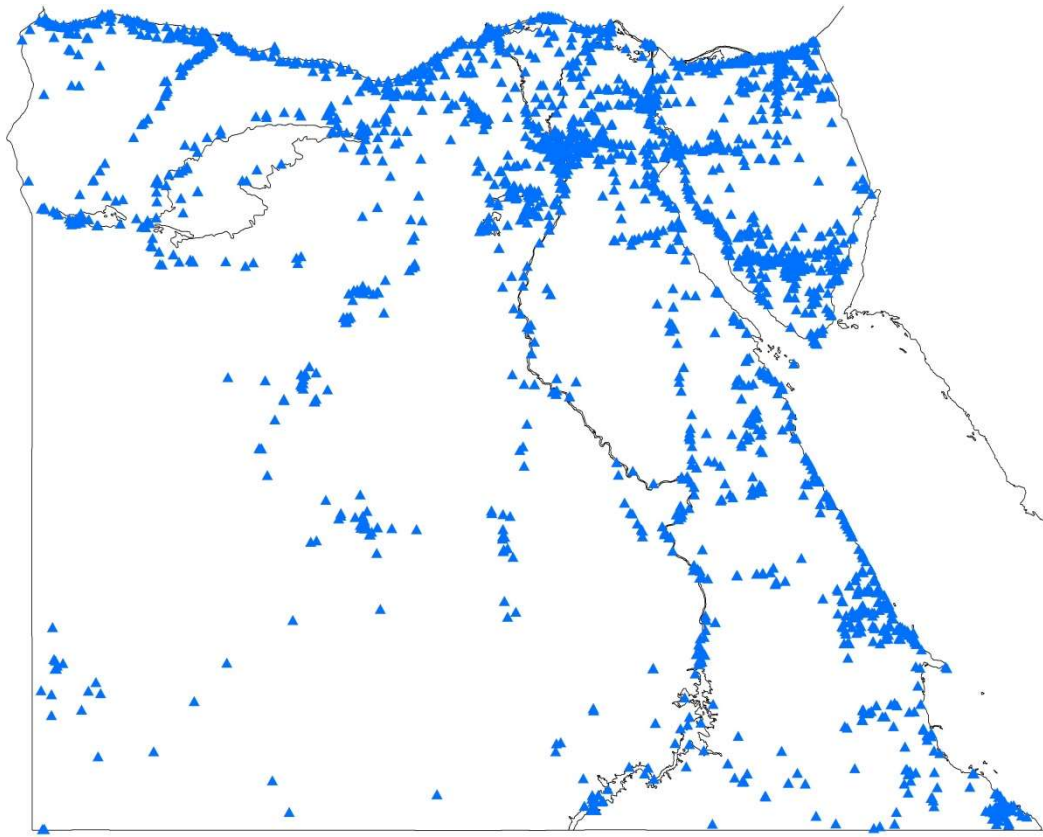
Table S4: Different scores of different parameters used to calculate relative species weight.

Global IUCN status	score
Not assessed	1
Least concern	1
Vulnerable	2
Critically Endangered	3

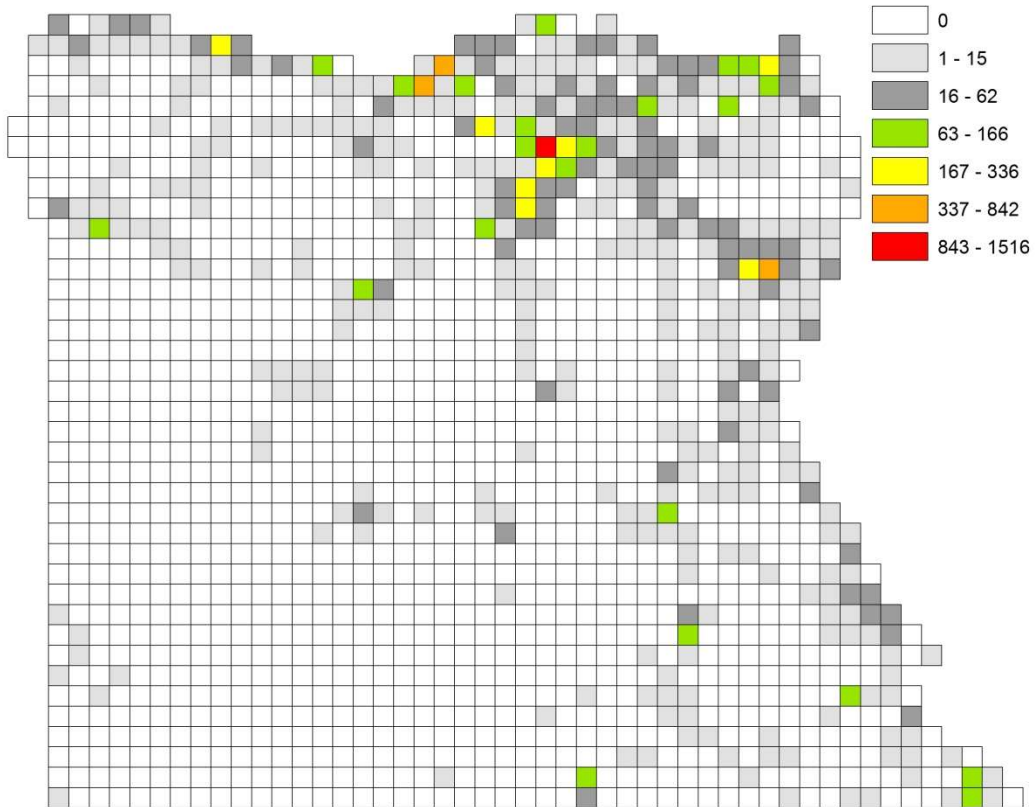
National IUCN status	score
Least Concern	1
Vulnerable - D2	2
Endangered	3

Species world distribution	score
Widespread	1
Narrow	2
Restricted	3
Endemic/Near Endemic	4

Distribution patterns within Egypt	score
Widespread	1
Narrow	2
localized	3

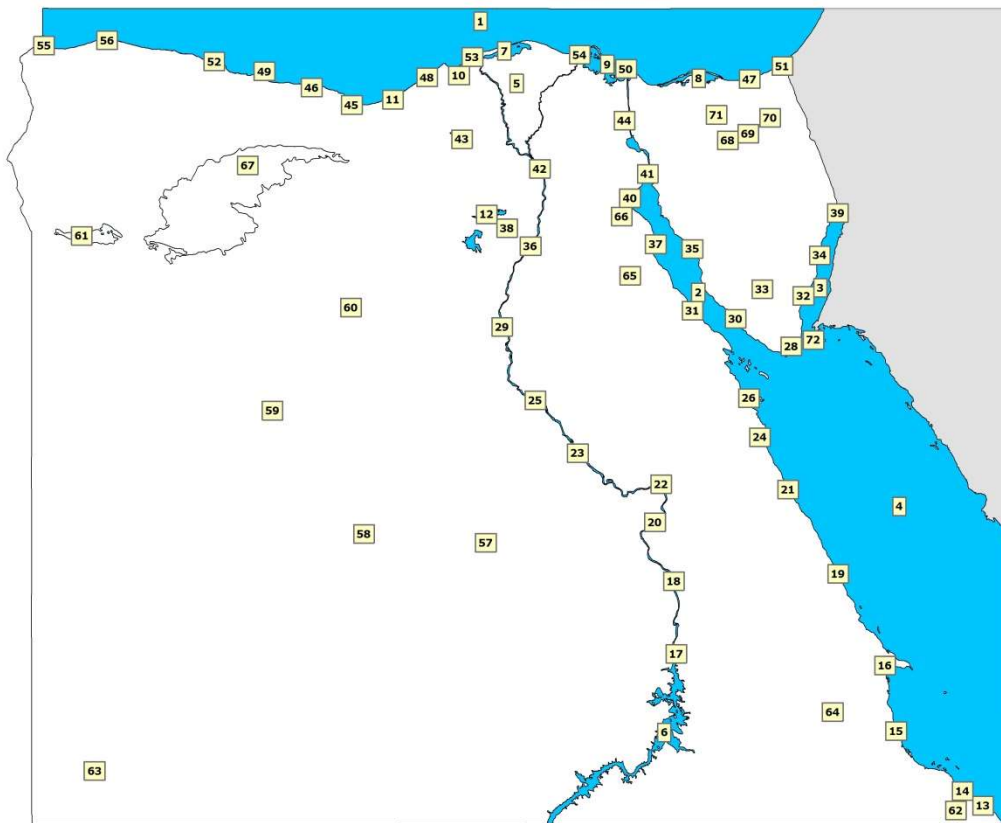


(a)



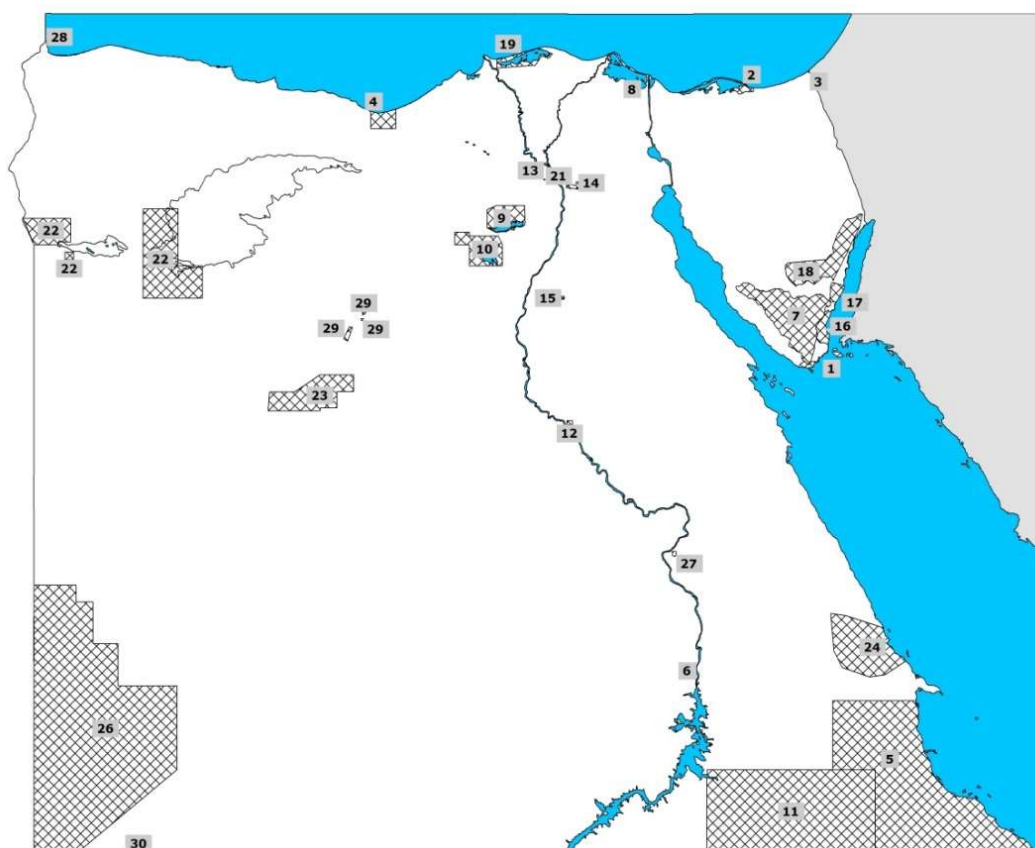
(b)

Fig. S1: The distribution of (a) all Egyptian reptile records; and (b) the number of records per grid square at a scale of a $\frac{1}{4}$ of a degree.



1	The Mediterranean Sea	25	Assiut	49	Ras El-Hekma
2	The Suez Gulf	26	Hurghada	50	Port-Said
3	The Aqaba Gulf	27	Ras Mohamed	51	Rafah
4	The Red Sea	28	Sharm El-Sheikh	52	Mersa Matruh
5	The Nile Delta	29	El-Minia	53	Rosetta
6	Lake Nasser	30	El-Tur	54	Damietta
7	Lake Brullus	31	Ras Gharib	55	Sallum
8	Lake Bardawil	32	Dahab	56	Sidi Barrani
9	Lake Manzala	33	Saint-Katherine	57	Kharga oasis
10	Lake Idku	34	Nuweiba	58	Dakhla oasis
11	Lake Mariut	35	Abu Zneima	59	Farafra oasis
12	Lake Qarun	36	Beni Suef	60	Bahariya oasis
13	Halayeb	37	Ras Zaafarana	61	Siwa oasis
14	Abu Ramad	38	Fayoum	62	Gebel Elba area
15	Al-Shalatein	39	Taba	63	El-Gilf El-Kebir
16	Berenice	40	Ain Sukhna	64	Gebel Abraq area
17	Aswan	41	Suez	65	Gebel El-Gallala El-Qibliya
18	Edfu	42	The greater Cairo	66	Gebel El-Gallala El-Bahariya
19	Mersa Alam	43	Wadi El-Natron	67	Qattara Depression
20	Luxor	44	Ismailia	68	Gebel Yillaq
21	El-Quseir	45	El-Alamein	69	El-Hassana
22	Qena	46	El-Dabaa	70	Gebel El-Hallal
23	Sohag	47	El-Arish	71	Gebel El-Maghara
24	Safaga	48	Alexandria	72	Tiran & Sanafir islands

Fig. S2: A map showing the outline of Egypt's political boundaries overlain with the main cities and geographical locations mentioned in this study.



No.	Protectorate Name	Declaration Date	Area Km ²	Governorate
1	Ras Mohamed National Park	1983	850	South Sinai
2	Zaranik Protectorate	1985	230	North Sinai
3	Ahrash Protectorate	1985	8	North Sinai
4	El-Omayed Protectorate	1986	700	Matrouh
5	Elba National Park	1986	35600	Red Sea
6	Saluga and Ghazal Protectorate	1986	0.5	Aswan
7	St. Katherine National Park	1988	4250	South Sinai
8	Ashtum El-Gamil Protectorate	1988	180	Port Said
9	Lake Qarun Protectorate	1989	250	El Fayoum
10	Wadi El-Rayan Protectorate	1989	1225	El Fayoum
11	Wadi Allaqi Protectorate	1989	30000	Aswan
12	Wadi El-Assuti Protectorate	1989	35	Assuit
13	El Hassana Dome Protectorate	1989	1	Giza
14	Petrified Forest Protectorate	1989	7	Cairo
15	Sannur Cave Protectorate	1992	12	Beni Suef
16	Nabq Protectorate	1992	600	South Sinai
17	Abu Galum Protectorate	1992	500	South Sinai
18	Taba Protectorate	1998	3595	South Sinai
19	Lake Burullus Protectorate	1998	460	Kafr El Sheikh
20	Nile Islands Protectorates *	1998	160	All Governorates on the Nile
21	Wadi Degla Protectorate	1999	60	Cairo
22	Siwa	2002	7800	Matrouh
23	White Desert	2002	3010	Matrouh
24	Wadi El-Gemal/Hamata	2003	7450	Red Sea
25	Red Sea Northern Islands *	2006	1991	Red Sea
26	El-Gilf El-Kebir	2007	48523	New Valley
27	El-Dababya	2007	1	Qena
28	El-Salum Gulf	2010	383	Matrouh
29	El-Wahat El-Bahreya	2010	109	6th October
30	Mount Kamel Meteor Protectorate	2012	1	New Valley

Fig. S3: A map showing the outline of Egypt's political boundaries overlain with the Protected Areas.

Protected Areas with * symbols are not shown in the map.

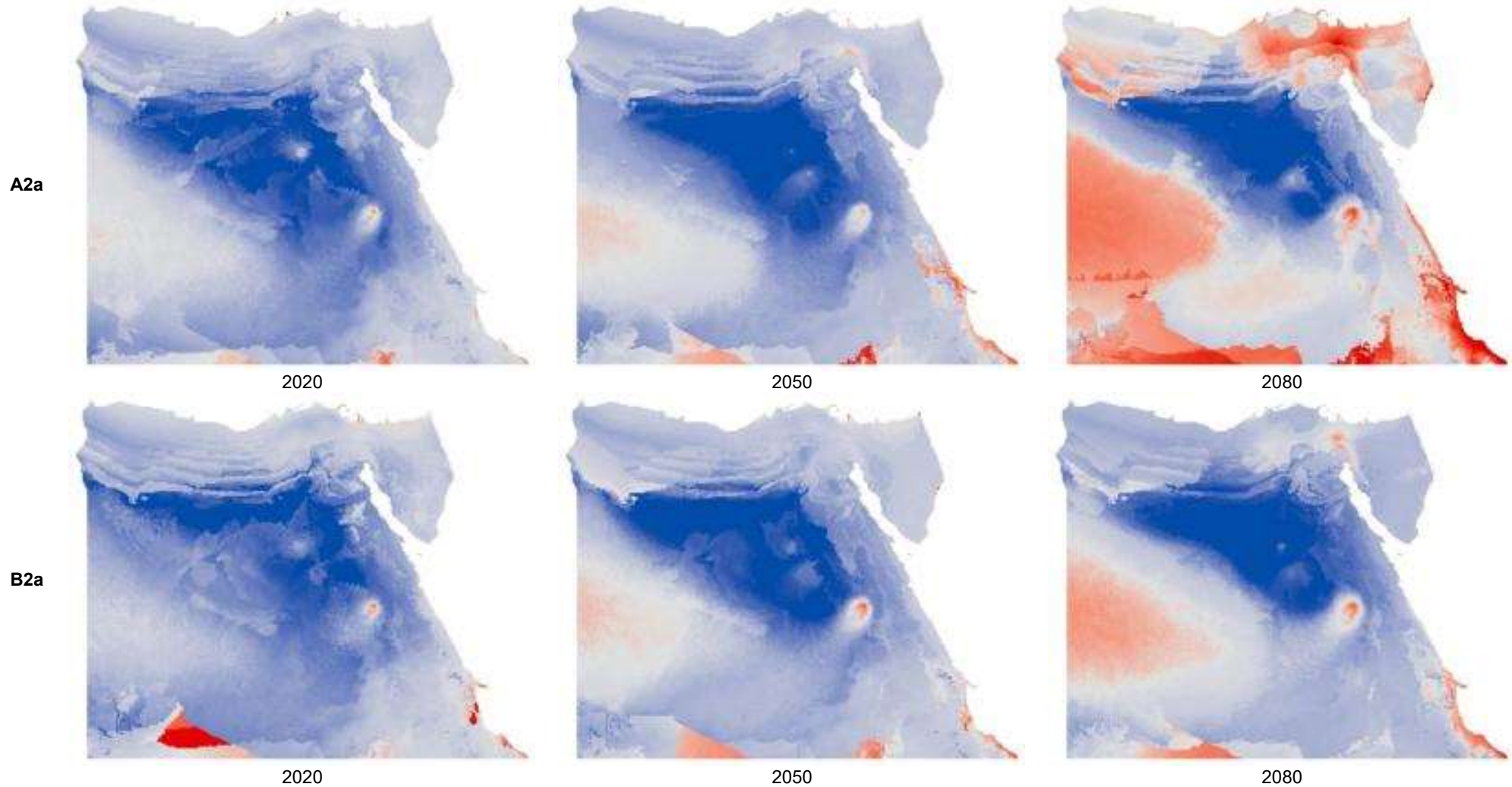


Fig. S4: Average MESS (Multivariate Environmental Similarity Surfaces; Elith *et al.* 2011) maps of different global circulation models showing areas of future novel climates.

Colours ranges from blue (indicating similar future climate conditions compared to the current; the darker the blue, the higher the similarity) to red (indicating dissimilar climates compared to the current; the darker the red colour, the higher the dissimilarity). Results for dark red areas should be interpreted with caution.

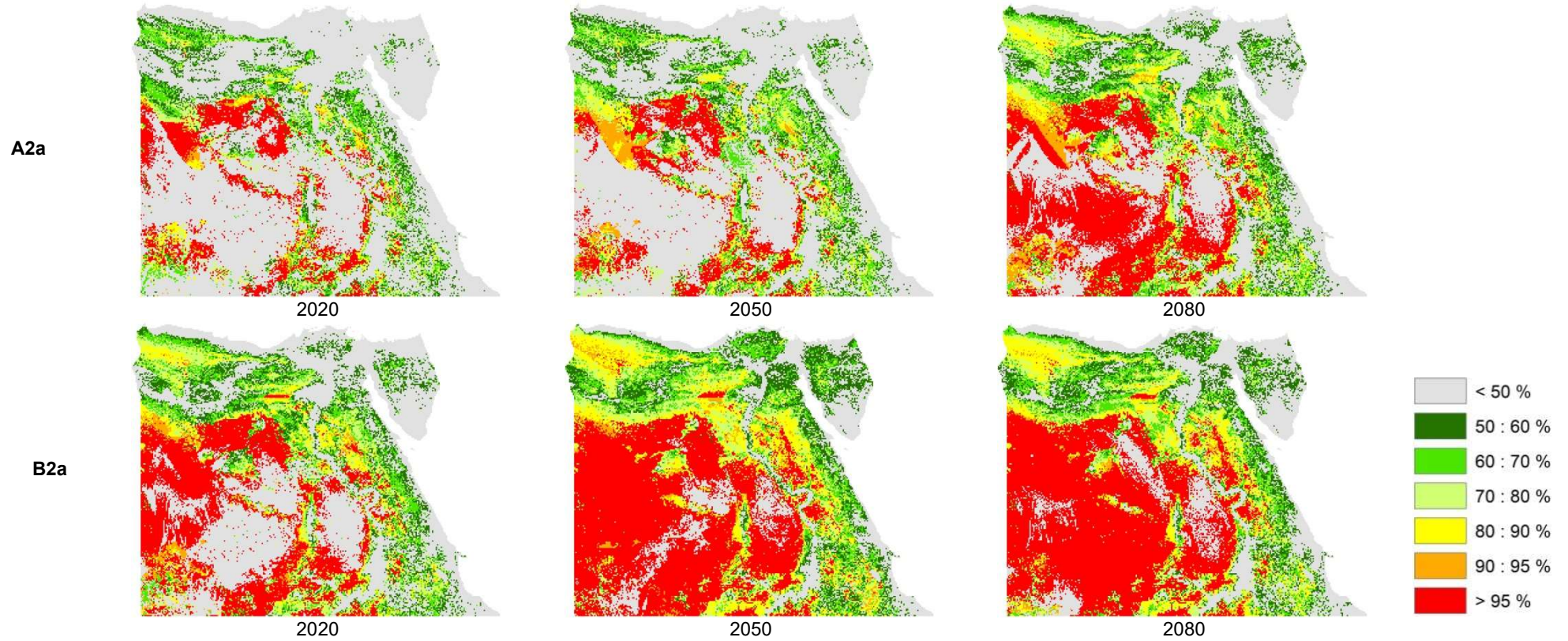


Fig. S6a: Future species turnover (a measure of dissimilarity between current and future species composition) assuming unlimited dispersal. Colour range from grey (low species turnover – small species composition change in the future) to dark red (high species turnover – high species composition change in the future).

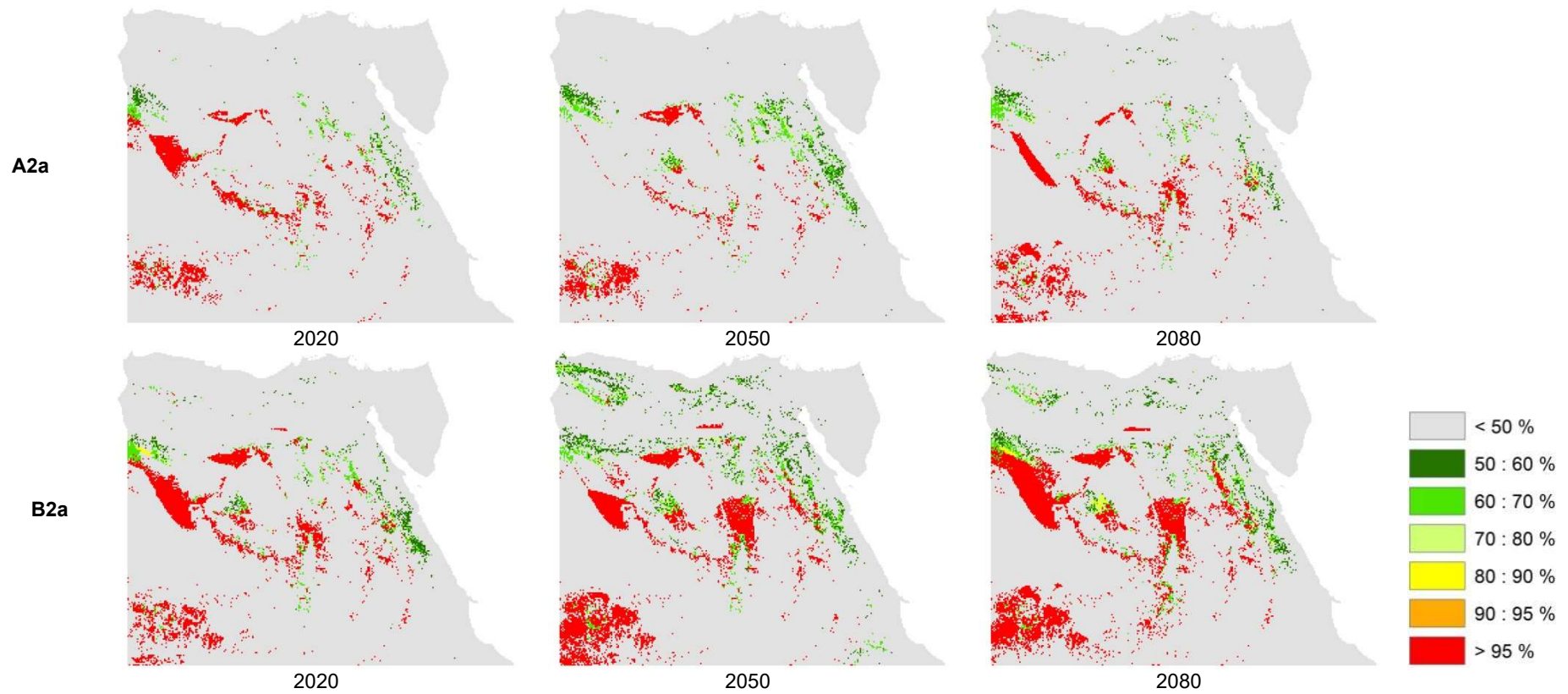


Fig. S6b: Future species turnover (a measure of dissimilarity between current and future species composition) assuming no-dispersal. Colour range from grey (low species turnover – small species composition change in the future) to dark red (high species turnover – high species composition change in the future).