

**Supplementary Appendix S1** *Mauremys* samples and their mitochondrial and nuclear genomic haplotypes. Samples used for ISSR indicated.

Abbreviations: MTD D – Museum of Zoology Dresden, Herpetological Collection; MTD T – Museum of Zoology Dresden, Tissue Collection; ZMGU – Zoological Museum, Gorgan University of Agricultural Sciences and Natural Resources; Cmt, Rmt – mitochondrial haplotypes; Cn, Rn – nuclear haplotypes.

Taxon	Sample	Voucher	Cyt <i>b</i>	C-mos	ISSR	Collection site
<i>Mauremys caspica caspica</i>	MTD T 1497	—	Cmt3	Cn2, Cn2	+	Azerbaijan: Bilasuvar
<i>Mauremys caspica caspica</i>	MTD T 3676	—	Cmt3	Cn1, Cn2	+	Azerbaijan: ditch between Berde and Ağcabedi; 40°13.322N 47°13.140E
<i>Mauremys caspica caspica</i>	MTD T 1458	—	Cmt3	Cn1, Cn7	—	Azerbaijan: east of Beylaqan: Imamverdili
<i>Mauremys caspica caspica</i>	MTD T 3682	—	Cmt3	Cn1, Cn9	—	Azerbaijan: Istisu near Astara: ponds in valley; 38°27.050N 48°46.182E
<i>Mauremys caspica caspica</i>	MTD T 1463	—	Cmt3	Cn1, Cn1	—	Azerbaijan: Mingacevir, pond near Kura river
<i>Mauremys caspica caspica</i>	MTD T 3670	—	Cmt3	Cn1, Cn2	—	Azerbaijan: vicinity of Katekh: pond near Zakatala; 41°38.420N 46°27.141E
<i>Mauremys caspica caspica</i>	MTD T 1414	ZMGU 907	Cmt3	Cn2, Cn11	—	Iran: Golestan: Atrak river, Moraveh Tappeh
<i>Mauremys caspica caspica</i>	MTD T 2677	—	Cmt3	Cn1, Cn2	—	Iran: Golestan: east of Agh Ghala (Aq Qal'eh; Sturgeon fish culture centre)
<i>Mauremys caspica caspica</i>	MTD T 2278	—	Cmt3	Cn1, Cn1	—	Iran: Golestan: vicinity of Gorgan
<i>Mauremys caspica caspica</i>	MTD T 2575	MTD D 46642	Cmt3	—	—	Iran: Golestan: vicinity of Gorgan
<i>Mauremys caspica caspica</i>	MTD T 1420	ZMGU 910	Cmt3	Cn1, Cn1	—	Iran: Mazandaran: Qaemshahr, road to Nezami
<i>Mauremys caspica caspica</i>	MTD T 2681	—	Cmt10	Cn1, Cn1	—	Iran: West Azerbaijan: between Maku and Bolyak
<i>Mauremys caspica caspica</i>	MTD T 1568	—	Cmt3	Cn1, Cn1	—	Russia: Dagestan: Derbentskii district: vicinity of Gelibatan
<i>Mauremys caspica caspica</i>	MTD T 1477	—	Cmt3	Cn1, Cn1	+	Russia: Dagestan: Derbentskii district: vicinity of Avadan; 41°55.993N 48°20.189E
<i>Mauremys caspica caspica</i>	MTD T 2383	—	Cmt3	Cn1, Cn1	+	Russia: Dagestan: Gurbuki; 42°61.000N 47°60.280E
<i>Mauremys caspica caspica</i>	MTD T 738	—	Cmt3	Cn2, Cn2	+	Russia: Dagestan: Kayakentskii district: Papas (Anji)
<i>Mauremys caspica caspica</i>	MTD T 739	—	Cmt3	Cn1, Cn1	+	Russia: Dagestan: Kayakentskii district: Papas (Anji)
<i>Mauremys caspica caspica</i>	MTD T 368	—	Cmt7	Cn2, Cn3	+	Turkey: Adiyaman: creek east of Adiyaman; 37°84.419N 38°41.706E
<i>Mauremys caspica caspica</i>	MTD T 2996	—	Cmt9	Cn1, Cn1	+	Turkey: Aksaray: Boget (Sultanhanı)
<i>Mauremys caspica caspica</i>	MTD T 804	—	Cmt9	—	+	Turkey: Aksaray: vicinity of Aksaray
<i>Mauremys caspica caspica</i>	MTD T 809	—	Cmt7	Cn1, Cn1	+	Turkey: Diyarbakır: Diyarbakır
<i>Mauremys caspica caspica</i>	MTD T 3340	—	Cmt8	Cn1, Cn1	+	Turkey: Eskişehir: Sivrihisar district: Oğlakçı
<i>Mauremys caspica caspica</i>	MTD T 3000	—	Cmt9	Cn1, Cn1	+	Turkey: Kayseri: Sarımsaklı dam
<i>Mauremys caspica caspica</i>	—	MTD D 41597	Cmt7	—	—	Turkey: Şanlıurfa: Birecik
<i>Mauremys caspica caspica</i>	—	MTD D 42628	Cmt7	—	—	Turkey: Şanlıurfa: Birecik
<i>Mauremys caspica caspica</i>	—	MTD D 42914	Cmt7	—	—	Turkey: Şanlıurfa: Birecik

<i>Mauremys caspica caspica</i>	MTD T 801	—	Cmt7	—	+	Turkey: Şanlıurfa: Birecik
<i>Mauremys caspica caspica</i>	MTD T 803	—	Cmt7	Cn3, Cn3	+	Turkey: Şanlıurfa: Birecik
<i>Mauremys caspica caspica</i>	MTD T 363	—	Cmt7	Cn4, Cn5	—	Turkey: Şanlıurfa: river at street E-99 between Hilvan and Çaylarbasi
<i>Mauremys caspica caspica</i>	MTD T 3336	—	Cmt8	Cn1, Cn1	+	Turkey: Sinop: Boyabat district
<i>Mauremys caspica caspica</i>	MTD T 3337	—	Cmt8	Cn1, Cn1	+	Turkey: Sinop: Boyabat district
<i>Mauremys caspica caspica</i>	MTD T 3338	—	Cmt8	Cn1, Cn1	+	Turkey: Sinop: Boyabat district
<i>Mauremys caspica caspica</i>	MTD T 3388	—	Cmt8	Cn1, Cn1	+	Turkey: Tokat: Niksar district: Sarıyazı
<i>Mauremys caspica caspica</i>	MTD T 367	—	Cmt8	Cn1, Cn1	—	Turkey: Van: river 10 km from Van, near university
<i>Mauremys caspica caspica x siebenrocki</i>	MTD T 754	—	Cmt5	Cn3, Cn6	—	Syria: Tell-Shaik-Hammad, approx. 50 km NE of Deir az-Zor
<i>Mauremys caspica siebenrocki</i>	MTD T 563	—	Cmt6	—	—	Bahrain
<i>Mauremys caspica siebenrocki</i>	MTD T 564	—	Cmt5	Cn1, Cn10	—	Bahrain
<i>Mauremys caspica siebenrocki</i>	MTD T 565	—	Cmt5	—	—	Bahrain
<i>Mauremys caspica siebenrocki</i>	MTD T 571	—	Cmt1	—	+	Bahrain
<i>Mauremys caspica siebenrocki</i>	MTD T 582	—	Cmt2	—	—	Bahrain
<i>Mauremys caspica siebenrocki</i>	MTD T 747	—	Cmt3	Cn1, Cn1	+	Iran: Kermanshahan: Bisotun = Bisitun
<i>Mauremys caspica siebenrocki</i>	MTD T 3046	—	Cmt8	—	—	Iran: Kermanshahan: Kermanshah
<i>Mauremys caspica siebenrocki</i>	MTD T 2684	—	Cmt3	Cn1, Cn8	—	Iran: Khuzestan: vicinity of Shadegan
<i>Mauremys caspica siebenrocki</i>	MTD T 3504	—	Cmt1	—	—	Saudi Arabia: Eastern Province: Al-Hafuf
<i>Mauremys caspica siebenrocki</i>	MTD T 3505	—	Cmt1	—	+	Saudi Arabia: Eastern Province: Al-Hafuf
<i>Mauremys caspica ventrimaculata</i>	MTD T 1609	—	Cmt4	Cn1, Cn1	+	Iran: Fars: Hol-Baghoo in Bakhtegan National Park; 29°32.222N 53°39.493E
<i>Mauremys caspica ventrimaculata</i>	MTD T 4150	—	Cmt4	—	+	Iran: Fars: Lake Maharloo
<i>Mauremys caspica ventrimaculata</i>	MTD T 4149	—	Cmt4	—	—	Iran: Fars: Lake Maharloo
<i>Mauremys caspica ventrimaculata</i>	MTD T 4148	—	Cmt4	—	—	Iran: Fars: Lake Maharloo
<i>Mauremys caspica x rivulata</i> hybrid	MTD T 3331	—	Cmt9	Cn1, Cn1	+	Turkey: Bilecik: Gaziler village
<i>Mauremys caspica x rivulata</i> hybrid	MTD T 3332	—	Cmt9	Cn1, Cn1	+	Turkey: Bilecik: Gaziler village
<i>Mauremys caspica x rivulata</i> hybrid	MTD T 3333	—	Cmt9	Cn1, Cn1	+	Turkey: Bilecik: Gaziler village
<i>Mauremys caspica x rivulata</i> hybrid	MTD T 3334	—	Cmt9	Cn1, Rn4	+	Turkey: Bilecik: Gaziler village
<i>Mauremys caspica x rivulata</i> hybrid	MTD T 3335	—	Cmt9	Cn1, Cn1	+	Turkey: Bilecik: Gaziler village
<i>Mauremys rivulata</i>	MTD T 2329	—	Rmt2	Rn1, Rn1	—	Bulgaria: Zhelezino
<i>Mauremys rivulata</i>	MTD T 3512	—	Rmt3	Rn1, Rn1	—	Croatia: Dalmatia: Konavočica river; 42°53.000N 18°36.417E
<i>Mauremys rivulata</i>	MTD T 3515	—	Rmt2	Rn1, Rn1	—	Croatia: Dalmatia: vicinity of Slano: Majkovo ponds
<i>Mauremys rivulata</i>	MTD T 1162	—	Rmt8	Rn1, Rn1	—	Greece: Crete: vicinity of Skinias, approx. 15 km from south coast
<i>Mauremys rivulata</i>	MTD T 822	—	Rmt1	Rn1, Rn1	—	Greece: Kos; 36°52.312N 27°17.757E
<i>Mauremys rivulata</i>	MTD T 383	—	Rmt4	Rn1, Rn1	—	Greece: Macedonia: between Agios Vasileios and Lake Koroneia
<i>Mauremys rivulata</i>	MTD T 1613	—	Rmt1	Rn2, Rn4	—	Greece: Thrace: Monastiraki, approx. 20 km east of Alexandroupoli

<i>Mauremys rivulata</i>	MTD T 275	—	Rmt1	Rn6 or Rn7, Rn6 or Rn7	+	Jordan: Al-Hamma (Birket Al-Arayes)
<i>Mauremys rivulata</i>	MTD T 276	—	Rmt1	Rn6 or Rn7, Rn8	+	Jordan: Al-Hamma (Birket Al-Arayes)
<i>Mauremys rivulata</i>	MTD T 277	—	Rmt1	Rn6, Rn6	—	Jordan: Al-Hamma (Birket Al-Arayes)
<i>Mauremys rivulata</i>	MTD T 278	—	Rmt1	Rn6, Rn7	+	Jordan: Al-Hamma (Birket Al-Arayes)
<i>Mauremys rivulata</i>	MTD T 279	—	Rmt1	Rn1 or Rn2, Rn9	+	Jordan: Al-Hamma (Birket Al-Arayes)
<i>Mauremys rivulata</i>	MTD T 1688	—	Rmt3	Rn4, Rn4	—	European Turkey: Edirne: Uzunköprü: Yeniköy
<i>Mauremys rivulata</i>	MTD T 1668	—	Rmt2	Rn1, Rn1	—	European Turkey: Kirklareli: Lüleburgaz: Evrensekiz
<i>Mauremys rivulata</i>	MTD T 3290	—	Rmt2	Rn1, Rn1	+	Turkey: Adana: Ceyhan river
<i>Mauremys rivulata</i>	MTD T 361	—	Rmt1	Rn1, Rn1	+	Turkey: Adana: Yumurtalik: creek close to sea coast
<i>Mauremys rivulata</i>	MTD T 362	—	Rmt2	Rn1 or Rn2, Rn1 or Rn2	+	Turkey: Adana: Yumurtalik: creek close to sea coast
<i>Mauremys rivulata</i>	MTD T 369	—	Rmt6	Rn3, Rn5	+	Turkey: Adiyaman: Gölbaşı; 37.80.412N 37.65.774E
<i>Mauremys rivulata</i>	MTD T 3289	—	Rmt7	Rn4, Rn4	+	Turkey: Antakya: Kırıkhan district
<i>Mauremys rivulata</i>	MTD T 3284	—	Rmt7	Rn4, Rn4	+	Turkey: Antakya: Samandağ district: Asi river
<i>Mauremys rivulata</i>	MTD T 2577	—	Rmt2	—	—	Turkey: Antalya: vicinity of Alanya
<i>Mauremys rivulata</i>	MTD T 3475	—	Rmt1	Rn4, Rn4	+	Turkey: Aydın: Söke plain: Menderes delta
<i>Mauremys rivulata</i>	MTD T 2975	—	Rmt1	Rn2, Rn4	+	Turkey: Bursa: Lake Uluabat
<i>Mauremys rivulata</i>	MTD T 2993	—	Rmt1	Rn1, Rn1	+	Turkey: Çanakkale: Troia
<i>Mauremys rivulata</i>	MTD T 3339	—	Rmt1	Rn4, Rn4	—	Turkey: Düzce: Akçakoca district: Altinköy
<i>Mauremys rivulata</i>	MTD T 805	—	Rmt2	Rn1, Rn4	—	Turkey: Düzce: vicinity of Akçakoca
<i>Mauremys rivulata</i>	MTD T 3271	—	Rmt5	Rn1, Rn1	—	Turkey: Gaziantep: between Sakçagözü and Gedikli
<i>Mauremys rivulata</i>	MTD T 3275	—	Rmt6	Rn1, Rn4	—	Turkey: Gaziantep: İslahiye district
<i>Mauremys rivulata</i>	MTD T 3274	—	Rmt5	Rn4, Rn4	—	Turkey: Gaziantep: Nurdağı district
<i>Mauremys rivulata</i>	MTD T 358	—	Rmt1	Rn1, Rn4	—	Turkey: İzmir: Arpaderesi river near Foça
<i>Mauremys rivulata</i>	MTD T 247	—	Rmt1	Rn1 or Rn2, Rn1 or Rn2	—	Turkey: İzmir: Çukurköy
<i>Mauremys rivulata</i>	MTD T 2989	—	Rmt2	Rn1, Rn4	—	Turkey: İzmir: Menemen
<i>Mauremys rivulata</i>	—	MTD D 42915	Rmt5	—	—	Turkey: İzmir: vicinity of İzmir
<i>Mauremys rivulata</i>	—	MTD D 41974	Rmt2	—	—	Turkey: İzmir: vicinity of İzmir
<i>Mauremys rivulata</i>	MTD T 3295	—	Rmt1	Rn1, Rn1	—	Turkey: Mersin: Anamur district: Mamure castle
<i>Mauremys rivulata</i>	MTD T 3302	—	Rmt1	Rn4, Rn4	—	Turkey: Mersin: Anamur district: Mamure castle
<i>Mauremys rivulata</i>	MTD T 2979	—	Rmt1	Rn1, Rn1	—	Turkey: Muğla: Köyceğiz

**Supplementary Appendix S2** ISSR marker bands of *Mauremys caspica* and *M. rivulata* using the primer (GACA)<sub>4</sub>. Sample codes as used in Fig. 8; abbreviations for taxa or hybrids precede MTD T numbers: cc, *Mauremys caspica caspica*; cs, *M. c. siebenrocki*; cv, *M. c. ventrimaculata*; h, putative *caspica* × *rivulata* hybrids; r, *M. rivulata*. For locality data, see Supplementary Appendix S1.

Sample	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
cc368	<i>caspica caspica</i>	0	0	0	0	1	0	0	0	1	1	1	0	0	1	1	0
cc738	<i>caspica caspica</i>	0	1	1	0	1	0	0	0	1	1	0	1	0	0	1	0
cc739	<i>caspica caspica</i>	0	1	1	0	1	0	0	0	1	1	0	1	0	0	1	0
cc801	<i>caspica caspica</i>	0	1	1	0	1	0	0	0	0	0	1	0	0	1	1	0
cc803	<i>caspica caspica</i>	0	1	1	0	1	0	0	0	1	1	1	1	0	0	1	0
cc804	<i>caspica caspica</i>	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0
cc809	<i>caspica caspica</i>	0	0	1	0	1	0	0	0	0	1	1	0	0	1	1	0
cc1477	<i>caspica caspica</i>	0	0	1	0	1	0	0	0	1	1	0	1	0	0	1	0
cc1497	<i>caspica caspica</i>	0	0	1	0	1	0	0	0	1	1	0	1	0	0	1	0
cc2383	<i>caspica caspica</i>	0	1	1	0	1	0	0	0	1	1	0	1	0	0	1	0
cc2996	<i>caspica caspica</i>	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0
cc3000	<i>caspica caspica</i>	0	0	1	0	1	0	0	0	0	0	1	0	0	1	1	0
cc3336	<i>caspica caspica</i>	0	0	1	0	1	0	0	0	1	1	1	1	0	0	1	0
cc3337	<i>caspica caspica</i>	0	1	1	0	1	0	0	0	1	1	0	1	0	0	1	0
cc3338	<i>caspica caspica</i>	0	1	0	0	1	0	0	0	1	1	0	1	0	0	1	0
cc3340	<i>caspica caspica</i>	0	0	1	0	1	0	0	0	0	0	1	0	0	1	1	0
cc3388	<i>caspica caspica</i>	0	1	0	0	1	0	0	0	0	0	1	0	0	1	1	0
cc3676	<i>caspica caspica</i>	0	0	1	0	1	0	0	0	1	1	0	1	0	0	1	0
cs571	<i>caspica siebenrocki</i>	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0
cs747	<i>caspica siebenrocki</i>	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0
cs3505	<i>caspica siebenrocki</i>	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0
cv1609	<i>caspica ventrimaculata</i>	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0
cv4150	<i>caspica ventrimaculata</i>	0	1	0	0	1	0	0	0	1	1	0	1	1	0	1	0
h3331	<i>caspica x rivulata</i> hybrid	0	0	1	0	1	1	0	1	0	0	1	0	1	1	1	0
h3332	<i>caspica x rivulata</i> hybrid	0	0	0	0	1	1	0	1	0	0	1	0	1	1	1	0
h3333	<i>caspica x rivulata</i> hybrid	0	0	0	0	1	0	0	0	0	1	1	0	1	1	1	0
h3334	<i>caspica x rivulata</i> hybrid	0	0	0	0	1	0	0	0	0	1	1	0	1	1	1	0
h3335	<i>caspica x rivulata</i> hybrid	0	0	0	0	1	0	0	0	0	1	1	0	0	1	1	0
r275	<i>rivulata</i>	0	0	0	0	1	1	0	1	0	0	1	0	1	1	1	0
r276	<i>rivulata</i>	0	0	1	1	1	1	1	1	0	0	1	1	1	1	1	1
r278	<i>rivulata</i>	0	0	1	1	1	1	0	1	0	0	1	1	1	1	1	0
r279	<i>rivulata</i>	0	0	1	1	1	1	0	1	0	0	1	1	1	1	1	1
r361	<i>rivulata</i>	0	0	1	1	1	1	0	0	0	0	1	1	1	1	1	0
r362	<i>rivulata</i>	1	0	1	1	1	1	0	0	0	0	1	1	1	1	1	0
r369	<i>rivulata</i>	1	0	1	1	1	1	0	0	0	0	1	0	1	1	1	1
r2975	<i>rivulata</i>	0	0	1	1	1	0	0	0	0	0	1	1	1	1	1	1
r2993	<i>rivulata</i>	0	0	1	1	1	1	0	1	0	0	1	1	1	1	1	1
r3284	<i>rivulata</i>	0	0	0	0	1	1	0	0	1	1	0	1	1	1	1	0
r3289	<i>rivulata</i>	0	0	0	1	1	1	0	1	0	0	1	1	1	1	1	0
r3290	<i>rivulata</i>	1	0	1	1	1	1	0	0	0	0	1	1	1	1	1	1
r3475	<i>rivulata</i>	1	0	1	1	1	1	0	0	1	1	0	1	1	1	1	0