

Preliminary assessment of genetic diversity and population connectivity of the Mugger Crocodile in Iran

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**Supplementary material**

**Table S1** – Microsatellite loci used in this study, with primer information, allele ranges and references for description of primers.

Locus ID	Primer sequences (5'-3')	Repeat motif	Allele range (bp)	Reference
CpDi42	F: GTTTTCAGTTTATTTGCCAAAG R: CAGTCGGGCGTCATCAGATTGGGGAGGGAAGT	(AC) <sub>11</sub>	143-165	Miles et al., (2009) <sup>1</sup>
CpP4308	F: CAGTCGGGCGTCATCACATATGTAAATTTGGAATGA R: GTTTGATTGAGCCATCCTTAAC	(ATC) <sub>8</sub>	112	Miles et al., (2009) <sup>1</sup>
CpP4311	F: CAGTCGGGCGTCATCAGGCTGCTCTGTGTTTG R: GTTTGGGTTTAGCATCATGT	(AGAT) <sub>11</sub>	214-222	Miles et al., (2009) <sup>1</sup>
CpDi28	F: CAGTCGGGCGTCATCACTATGCACTCCCTGATTTAAG R: GTTTCCCACTCACGAATCTAAAG	(AC) <sub>22</sub>	120	Miles et al., (2009) <sup>1</sup>
CpP305	F: GTTTGTAGCTGGAACCTGATAGTG R: CAGTCGGGCGTCATCAGGTTAACACGTGGTAACTACA	(AC) <sub>16</sub>	198-200	Miles et al., (2009) <sup>1</sup>
CpP4116	F: CAGTCGGGCGTCATCATTTCAAATATCCGTGTCAT R: GTTTACCGCTTGAACCTTGT	(AGAT) <sub>12</sub>	226-230	Miles et al., (2009) <sup>1</sup>
Cj131	F: GTTTGTCTTCTTCCTCCTGTCCCTC R: AAATGCTGACTCCTACGGATGG		246-250	FitzSimmons et al., (2001) <sup>2</sup>
Cj16	F: CATGCAGATTGTTATTCCTGATG R: TGTCATGGTGTCAATTAAGCTC		178	FitzSimmons et al., (2001) <sup>2</sup>

CUD68	F: GCTTCAGCAGGGGCTACC R: TGGGGAAACTGCACTTTAGG	172-186	FitzSimmons et al., (2001) <sup>2</sup>
Cj119	F: GTTTGCTGTGGAATGTTTCTAC R: CGCTATATGAAACGGTGGCTG	195	FitzSimmons et al., (2001) <sup>2</sup>
CpP2504	F: CAGTCGGGCGTCATCACTCATATTTCCCAACTATCAC R: GTTTCATTCCCACAATACACATAA	(AGAT) <sub>9</sub> 346-354	Miles et al., (2009) <sup>1</sup>
CpPi29	F: GAAACAGCCAAATGTGAG R: CAGTCGGGCGTCATCAGGTAGCTCCAAGTAGTTTATT	(AC) <sub>14</sub> 251-253	Miles et al., (2009) <sup>1</sup>

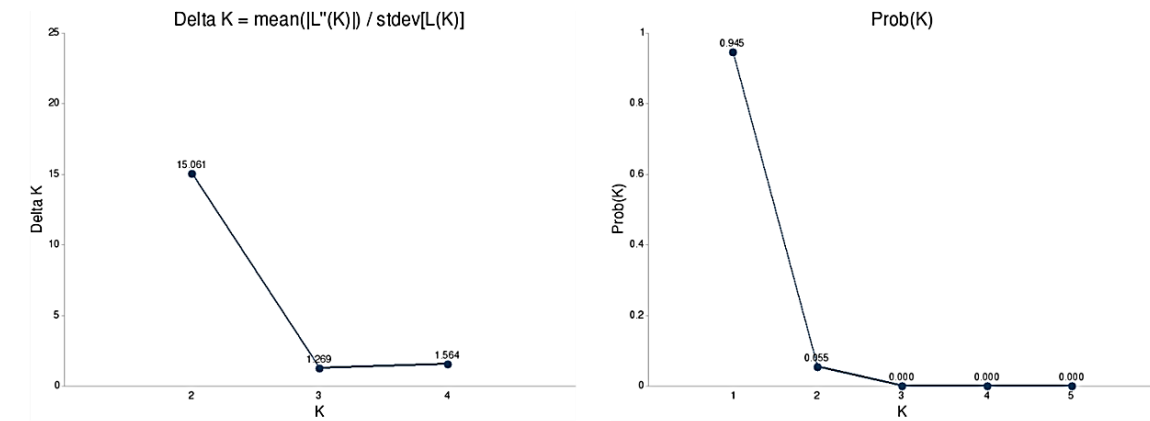
<sup>1</sup> Miles, L.G., Isberg, S.R., Moran, C., Hagen, C., Glenn, T.C. (2009): 253 Novel polymorphic microsatellites for the saltwater crocodile (*Crocodylus porosus*). *Conserv. Genet.* 10: 963-980.

<sup>2</sup> FitzSimmons, N.N., Tanksley, S., Forstner, M.R., Louis, E.E., Daglish, R., Gratten, J., Davis, S. (2001): Microsatellite markers for *Crocodylus*: new genetic tools for population genetics, mating system studies and forensics. *Crocodylian biology and evolution* (ed. By G. Grigg, F. Seebacher and C.E. Franklin). Chipping Norton, Australia: Surrey Beatty, pp 51–57.

**Table S2** - Spatial (path and row) and temporal (date) information of Landsat scenes used in this study.

Country	Path	Row	Date	Season	Satellite
Iran	156	42	22-3-2015	Wet	Landsat 8
	156	43	22-3-2015	Wet	Landsat 8
	156	42	15-08-2016	Dry	Landsat 8
	156	43	15-08-2016	Dry	Landsat 8

**Figure S1** - Population structuring analyses of *C. palustris* using 12 microsatellite loci dataset. Line plots are indicating the most likely K-value according to the Delta K (left) and  $\ln \Pr(X|K)$  Probability of K (right) methods. Bar plots show the Bayesian genotype clustering assignment of 10 individuals to one ( $K=1$ ; upper plot) and two clusters ( $K=2$ ; lower plot). Different bar colours represent probability of cluster assignment of each individual.



K=1



K=2



**Figure S2** - Potential connectivity between crocodile sampled locations for the wet and dry seasons. A - Water map derived from Xu's NDWI calculation using Landsat 8 images for the wet season. B - Circuitscape analysis using the resultant water map as cost surface and showing possible water connectivity between crocodile locations for the wet season. C - Water map derived from Xu's NDWI calculation using Landsat 8 images for the dry season. D - Circuitscape analysis using the resultant water map as cost surface and showing possible water connectivity between crocodile locations for the dry season. E - Water differences between both seasons. F - Connectivity differences between both seasons.

