

Supplementary Material to:

Molecular and morphological evidence for a new subspecies of Fazila's Lycian Salamander *Lyciasalamandra fazilae* in South-west Anatolia

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Zoology in the Middle East, 64, 2018

<http://dx.doi.org/10.1080/09397140.2018.1511291>

Supplementary Table S1. Some mensural characters (in mm) and ratios of the *Lyciasalamandra fazilae fazilae*. 1: values in raw data; 2: values in PERCRA index; N: number of specimens; SD: standard deviation; SE: standard error of mean; P: $p \leq 0.05$ value for sexual dimorphism. The other abbreviations of the characters are given in Materials and Methods.

Characters		♂						t-test	P	♀						Juveniles						Sum Adults (♂+♀)					
		N	Min.	Max.	Mean	SD	SE			N	Min.	Max.	Mean	SD	SE	N	Min.	Max.	Mean	SD	SE	N	Min.	Max.	Mean	SD	SE
TBL	1	14	104.00	131.00	117.29	7.09	1.894	0.43		25	95.00	141.00	114.84	12.15	2.429	10	74.00	89.00	83.40	5.36	1.694	39	95.00	141.00	115.72	10.57	1.693
	2	14	176.19	187.14	181.01	3.55	0.950	0.07		25	146.15	185.53	176.95	9.54	1.907	10	172.09	181.63	177.03	3.49	1.105	39	146.15	187.14	178.40	8.10	1.297
RC	1	14	58.00	71.00	64.79	3.49	0.933	0.88		25	53.00	78.00	65.04	7.21	1.443	10	43.00	51.00	47.10	2.69	0.849	39	53.00	78.00	64.95	6.09	0.975
LT	1	14	44.29	55.17	49.90	2.83	0.757	0.98		25	40.52	59.87	49.94	5.76	1.152	10	26.55	38.23	34.19	3.54	1.119	39	40.52	59.87	49.93	4.87	0.780
	2	14	75.98	78.05	77.02	0.71	0.189	0.36		25	74.28	78.87	76.75	1.06	0.213	10	54.18	76.04	72.63	6.57	2.077	39	74.28	78.87	76.85	0.95	0.152
TL	1	14	46.00	61.00	52.50	3.96	1.057	0.37		23	41.00	65.00	50.96	6.28	1.309	10	31.00	40.00	36.30	2.91	0.920	37	41.00	65.00	51.54	5.51	0.905
	2	14	76.19	87.14	81.01	3.55	0.950	0.23		23	68.85	85.53	79.46	4.06	0.847	10	72.09	81.63	77.03	3.49	1.105	37	68.85	87.14	80.04	3.90	0.641
NED	1	14	2.03	3.03	2.52	0.26	0.070	0.04		25	2.13	3.31	2.74	0.34	0.067	10	2.02	2.43	2.20	0.17	0.054	39	2.03	3.31	2.66	0.33	0.052
	2	14	3.27	4.33	3.89	0.28	0.076	0.00		25	3.63	4.81	4.21	0.29	0.059	10	4.40	5.15	4.68	0.28	0.089	39	3.27	4.81	4.09	0.33	0.052
DBN	1	14	3.74	5.08	4.37	0.37	0.098	0.24		25	3.61	5.45	4.54	0.52	0.103	10	2.96	3.61	3.41	0.18	0.058	39	3.61	5.45	4.48	0.47	0.075
	2	14	6.35	7.26	6.74	0.30	0.079	0.05		25	6.12	8.04	7.00	0.49	0.099	10	6.30	8.07	7.26	0.49	0.155	39	6.12	8.04	6.91	0.45	0.071
ED	1	14	3.73	4.80	4.29	0.31	0.082	0.65		25	3.60	5.21	4.34	0.43	0.086	10	3.28	3.76	3.46	0.14	0.043	39	3.60	5.21	4.32	0.39	0.062
	2	14	6.19	7.06	6.62	0.25	0.066	0.46		25	6.00	7.41	6.70	0.43	0.087	10	6.98	8.02	7.36	0.37	0.118	39	6.00	7.41	6.67	0.38	0.060
HL	1	14	13.71	16.29	14.89	0.83	0.221	0.60		25	11.82	18.13	15.09	1.59	0.318	10	11.25	12.77	11.91	0.51	0.163	39	11.82	18.13	15.02	1.35	0.217
	2	14	21.95	24.02	22.98	0.71	0.189	0.38		25	21.13	25.72	23.24	1.06	0.213	10	23.96	27.09	25.33	1.07	0.339	39	21.13	25.72	23.15	0.95	0.152
HW	1	14	9.65	11.74	10.78	0.62	0.165	0.50		25	8.77	12.96	10.97	1.15	0.231	10	7.93	9.39	8.49	0.51	0.160	39	8.77	12.96	10.91	0.99	0.159
	2	14	15.92	17.16	16.64	0.35	0.094	0.17		25	15.37	18.44	16.90	0.79	0.157	10	16.65	18.79	18.04	0.72	0.228	39	15.37	18.44	16.81	0.67	0.107
PL	1	14	6.16	8.60	7.26	0.71	0.190	0.10		25	6.03	10.03	7.72	0.96	0.192	10	4.21	6.18	5.33	0.56	0.178	39	6.03	10.03	7.56	0.90	0.144
	2	14	9.57	13.03	11.21	0.84	0.224	0.02		25	9.84	13.55	11.88	0.76	0.152	10	8.96	12.79	11.33	1.19	0.377	39	9.57	13.55	11.64	0.84	0.135
PW	1	14	1.43	2.98	2.12	0.43	0.114	0.07		25	1.47	3.53	2.39	0.44	0.087	10	1.35	1.87	1.54	0.21	0.065	39	1.43	3.53	2.29	0.45	0.071
	2	14	2.20	4.38	3.26	0.57	0.153	0.03		25	2.72	4.77	3.67	0.50	0.100	10	2.76	4.26	3.28	0.54	0.170	39	2.20	4.77	3.53	0.56	0.089
FLL	1	14	17.35	22.49	19.71	1.45	0.387	0.42		25	16.03	22.69	19.28	1.72	0.343	10	13.30	15.58	14.52	0.60	0.189	39	16.03	22.69	19.44	1.62	0.259
	2	14	27.11	31.93	30.42	1.42	0.380	0.16		25	27.50	32.17	29.74	1.36	0.272	10	28.73	32.74	30.86	1.15	0.365	39	27.11	32.17	29.98	1.40	0.224
HLL	1	14	20.29	24.56	22.10	1.25	0.334	0.77		25	18.68	27.13	22.26	2.22	0.444	10	14.91	17.65	16.76	0.87	0.274	39	18.68	27.13	22.20	1.91	0.306
	2	14	32.59	35.20	34.11	0.72	0.194	0.60		25	31.32	36.35	34.29	1.37	0.273	10	33.72	37.63	35.60	1.26	0.398	39	31.32	36.35	34.23	1.17	0.187
DFHL	1	14	28.51	38.13	31.71	2.60	0.695	0.98		25	24.28	39.89	31.69	4.22	0.845	10	19.16	25.90	22.95	1.88	0.594	39	24.28	39.89	31.70	3.69	0.590
	2	14	45.15	53.70	48.92	2.19	0.586	0.70		25	43.91	51.64	48.63	2.17	0.433	10	44.56	52.86	48.70	2.57	0.812	39	43.91	53.70	48.74	2.15	0.345
HDPBT	1	14	1.14	2.12	1.57	0.28	0.076																				
	2	14	1.97	2.99	2.42	0.36	0.095																				
HW/HL	1	14	0.69	0.76	0.72	0.02	0.006	0.69		25	0.67	0.78	0.73	0.02	0.005	10	0.68	0.74	0.71	0.02	0.006	39	0.67	0.78	0.73	0.02	0.004
TL/TBL	1	14	0.43	0.47	0.45	0.01	0.003	0.07		25	0.32	0.46	0.43	0.03	0.007	10	0.42	0.45	0.43	0.01	0.004	39	0.32	0.47	0.44	0.03	0.005
PW/PL	1	14	0.19	0.38	0.29	0.05	0.015	0.31		25	0.23	0.41	0.31	0.05	0.009	10	0.22	0.36	0.29	0.04	0.014	39	0.19	0.41	0.30	0.05	0.008
NED/HL	1	14	0.14	0.19	0.17	0.01	0.003	0.01		25	0.16	0.20	0.18	0.01	0.002	10	0.17	0.21	0.19	0.02	0.005	39	0.14	0.20	0.18	0.01	0.002

Supplementary Table S2. Some mensural characters (in mm) and ratios of the *Lyciasalamandra fazilae ulfetae* ssp. n. 1: values in raw data; 2: values in PERCRA index; N: number of specimens; SD: standard deviation; SE: standard error of mean; P: $p \leq 0.05$ value for sexual dimorphism. The other abbreviations of the characters are given in Materials and Methods.

Characters		♂						t-test	♀						Juveniles						Sum Adults (♂+♀)					
		N	Min.	Max.	Mean	SD	SE		P	N	Min.	Max.	Mean	SD	SE	N	Min.	Max.	Mean	SD	SE	N	Min.	Max.	Mean	SD
TBL	1	28	98.00	134.00	115.39	7.68	1.451	0.75	35	90.00	140.00	116.26	13.70	2.316	18	49.00	89.00	71.44	12.40	2.922	63	90.00	140.00	115.87	11.35	1.430
	2	28	163.24	186.76	178.28	4.69	0.887	0.55	35	169.01	188.89	179.00	4.61	0.779	18	148.48	233.33	177.05	16.55	3.900	63	163.24	188.89	178.68	4.62	0.582
RC	1	28	56.00	74.00	64.71	3.78	0.714	0.89	35	51.00	76.00	64.91	7.21	1.219	18	30.00	50.00	40.44	6.74	1.589	63	51.00	76.00	64.83	5.90	0.743
LT	1	28	41.65	57.46	49.87	3.23	0.611	0.86	35	38.06	57.64	49.67	5.81	0.981	18	22.37	37.93	30.17	5.33	1.257	63	38.06	57.64	49.76	4.80	0.605
	2	28	71.84	78.72	77.05	1.41	0.266	0.07	35	74.42	78.59	76.46	1.00	0.170	18	67.66	98.97	74.70	6.48	1.528	63	71.84	78.72	76.72	1.23	0.154
TL	1	28	41.00	60.00	50.86	4.25	0.803	0.73	35	37.00	64.00	51.34	6.85	1.158	18	16.00	39.00	30.44	6.53	1.539	63	37.00	64.00	51.13	5.80	0.731
	2	28	69.84	86.76	78.55	3.97	0.750	0.68	35	69.01	88.89	79.00	4.61	0.779	18	48.48	100.00	75.20	10.72	2.526	63	69.01	88.89	78.80	4.31	0.543
NED	1	28	2.12	3.08	2.61	0.29	0.055	0.66	35	2.12	3.32	2.65	0.34	0.057	18	1.37	2.40	1.90	0.26	0.061	63	2.12	3.32	2.63	0.31	0.040
	2	28	3.23	4.89	4.04	0.43	0.082	0.67	35	3.38	4.75	4.09	0.32	0.054	18	4.10	6.63	4.74	0.59	0.139	63	3.23	4.89	4.07	0.37	0.047
DBN	1	28	3.83	5.28	4.46	0.31	0.058	0.44	35	3.61	5.28	4.53	0.44	0.075	18	2.53	4.02	3.20	0.48	0.113	63	3.61	5.28	4.50	0.39	0.049
	2	28	6.01	7.40	6.89	0.35	0.066	0.27	35	5.84	7.84	7.01	0.48	0.081	18	6.93	10.07	7.96	0.67	0.157	63	5.84	7.84	6.96	0.43	0.054
ED	1	28	3.79	4.78	4.35	0.26	0.050	0.74	35	3.47	4.98	4.32	0.39	0.066	18	2.46	4.01	3.13	0.38	0.090	63	3.47	4.98	4.33	0.34	0.043
	2	28	5.83	7.35	6.73	0.42	0.079	0.67	35	5.79	7.92	6.68	0.44	0.074	18	6.74	9.97	7.83	0.78	0.184	63	5.79	7.92	6.70	0.42	0.053
HL	1	28	13.04	16.54	14.66	0.75	0.141	0.05	35	12.20	18.34	15.25	1.54	0.260	18	9.55	12.63	10.68	1.04	0.245	63	12.20	18.34	14.99	1.27	0.161
	2	28	20.81	25.63	22.69	1.04	0.196	0.00	35	21.41	25.58	23.55	1.00	0.169	18	24.14	34.37	26.75	2.66	0.627	63	20.81	25.63	23.17	1.10	0.138
HW	1	28	9.30	11.71	10.64	0.57	0.107	0.29	35	8.64	12.76	10.88	1.15	0.194	18	6.22	9.06	7.62	0.88	0.207	63	8.64	12.76	10.77	0.94	0.118
	2	28	14.75	17.32	16.46	0.57	0.107	0.05	35	15.74	18.76	16.79	0.71	0.121	18	16.79	23.80	19.02	1.53	0.362	63	14.75	18.76	16.64	0.67	0.084
PL	1	28	6.35	8.88	7.52	0.67	0.127	0.18	35	5.41	9.65	7.82	1.05	0.178	18	4.18	6.85	5.30	0.86	0.202	63	5.41	9.65	7.69	0.91	0.114
	2	28	10.35	13.32	11.62	0.72	0.135	0.03	35	10.40	13.59	12.03	0.75	0.127	18	11.76	17.37	13.19	1.51	0.355	63	10.35	13.59	11.85	0.76	0.096
PW	1	28	1.71	3.07	2.40	0.32	0.061	0.47	35	1.73	3.51	2.47	0.44	0.074	18	1.25	2.37	1.72	0.34	0.081	63	1.71	3.51	2.44	0.39	0.049
	2	28	2.51	4.58	3.71	0.49	0.092	0.45	35	2.79	4.88	3.81	0.56	0.095	18	3.28	5.90	4.30	0.74	0.173	63	2.51	4.88	3.77	0.53	0.067
FLL	1	28	16.49	22.24	19.44	1.23	0.233	0.71	35	15.17	23.20	19.30	1.82	0.308	18	10.84	16.31	13.28	1.73	0.407	63	15.17	23.20	19.36	1.58	0.199
	2	28	28.00	33.50	30.06	1.20	0.226	0.43	35	27.07	32.10	29.81	1.25	0.212	18	28.63	40.43	33.09	2.64	0.621	63	27.07	33.50	29.92	1.23	0.154
HLL	1	28	20.13	24.86	22.30	1.07	0.202	0.48	35	17.92	26.57	22.60	2.12	0.358	18	11.45	18.63	15.21	2.22	0.523	63	17.92	26.57	22.47	1.72	0.217
	2	28	32.43	37.52	34.51	1.37	0.258	0.28	35	32.40	37.72	34.91	1.49	0.251	18	33.03	50.77	37.88	3.77	0.889	63	32.40	37.72	34.73	1.44	0.181
DFHL	1	28	25.31	38.43	31.86	2.88	0.544	0.74	35	24.04	38.04	32.16	4.45	0.752	18	14.75	25.25	19.88	3.12	0.735	63	24.04	38.43	32.02	3.80	0.479
	2	28	41.75	52.63	49.17	2.48	0.468	0.68	35	41.08	52.85	49.43	2.41	0.407	18	43.50	67.97	49.46	5.30	1.248	63	41.08	52.85	49.31	2.42	0.305
HDPBT	1	28	1.06	2.27	1.66	0.35	0.067																			
	2	28	1.78	3.44	2.56	0.53	0.099																			
HW/HL	1	28	0.65	0.78	0.73	0.03	0.006	0.08	35	0.67	0.80	0.71	0.03	0.005	18	0.65	0.76	0.71	0.03	0.007	63	0.65	0.80	0.72	0.03	0.004
TL/TBL	1	28	0.41	0.46	0.44	0.01	0.002	0.84	35	0.41	0.47	0.44	0.01	0.002	18	0.33	0.47	0.42	0.03	0.007	63	0.41	0.47	0.44	0.01	0.002
PW/PL	1	28	0.22	0.39	0.32	0.04	0.008	0.80	35	0.23	0.39	0.32	0.05	0.008	18	0.25	0.41	0.33	0.04	0.011	63	0.22	0.39	0.32	0.04	0.006
NED/HL	1	28	0.15	0.21	0.18	0.02	0.004	0.27	35	0.15	0.20	0.17	0.01	0.002	18	0.14	0.20	0.18	0.02	0.004	63	0.15	0.21	0.18	0.02	0.002

Supplementary Table S3. Samples used for the molecular analysis with haplotypes, GenBank Accession Numbers and populations. N = sample size.

Haplotype	GenBank Acc. Nr.	Population (n)
H1	MH721922/ EU430975	Gökbel (7), Okçular (3), Kargıcak cove (3), Aşı cove-Mergenli (5), South of Mergenli/ Ortaca (3)
H2	MH721923	Manastır-Kleopatra cove (Kapıdağ peninsula) (1), Göbün cove (Kapıdağ peninsula) (3), Çataldağ-Darboğaz (Kapıdağ peninsula) (5)
H3	MH721924/ EU430973	Tersane Adasi (2), Manastır-Kleopatra cove (Kapıdağ peninsula) (4), Göbün cove (Kapıdağ peninsula) (1), Domuz island-Darboğaz (2)
H4	MH721925/ EU430976	Uelemez (3) North Ekincik-South Sultaniye (5)
H5	MH721926	Güzelyurt/ Ortaca (1)
H6	MH721927	Kargıcak cove (2)
H7	MH721928	South of Mergenli/ Ortaca (2)
H8	MH721929	Okçular (2)
H9	MH721930/ EU430974	Sarsila (9), Şerefler (2)
H10	MH721931	Şerefler (2)
H11	MH721932	Cöymen (3)
H12	MH721933/ EU430971	Cöymen (1), Goekceovacik (5), Üzümlü (1)
H13	MH721934	Cöymen (1)
H14	MH721935	Gökbel (1)
H15	MH721936	Gökbel (1)
H16	EU430972	Tersane Adasi (2), Domuz Adasi (5)
outgroup species	KY342278	<i>Lyciasalamandra antalyana</i>
outgroup species	KY342274	<i>Lyciasalamandra arikani</i>
outgroup species	KY342280	<i>Lyciasalamandra atifi</i>
outgroup species	KY342275	<i>Lyciasalamandra billae</i>
outgroup species	KY342285	<i>Lyciasalamandra flavimembris</i>
outgroup species	KY342287	<i>Lyciasalamandra helverseni</i>
outgroup species	KY342276	<i>Lyciasalamandra irfani</i>
outgroup species	KY342291	<i>Lyciasalamandra luschani</i>
outgroup species	KY342277	<i>Lyciasalamandra yehudahi</i>
outgroup species	EU880331	<i>Salamandra salamandra</i>
outgroup species	EU880308	<i>Chioglossa lusitanica</i>

Supplementary Table S4. Populations included in the molecular analysis with population numbers according to Figure 4, sample sizes and haplotypes. N = sample size.

Nr.	Population	N	Haplotypes (n)
1	Cöymen	5	H11 (3), H12 (1), H13 (1)
2	Sarsıla	9	H9 (9)
3	Uelemez	3	H4 (3)
4	Goekceovacik	5	H12 (5)
5	Üzümlü	1	H12 (1)
6	Gökbek	9	H1 (7), H14 (1), H15 (1)
7	Tersane Adasi	4	H16 (2), H3 (2)
8	Domuz Adasi	5	H16 (5)
9	North Ekincik-South Sultaniye	5	H4 (5)
10	Okçular	5	H1 (3), H8 (2)
11	Kargıcak cove	5	H1 (3), H6 (2)
12	Aşı cove-Mergenli	5	H1 (5)
13	South of Mergenli/Ortaca	5	H1 (3), H7 (2)
14	Şerefler	4	H9 (2), H10 (2)
15	Manastır-Kleopatra cove (Kapıdağ peninsula)	5	H2 (1), H3 (4)
16	Göbün cove (Kapıdağ peninsula)	4	H2 (3), H3 (1)
17	Çataldağ-Darboğaz (Kapıdağ peninsula)	5	H2 (5)
18	Domuz island-Darboğaz	2	H3 (2)
19	Güzelyurt/Ortaca	1	H5 (1)



Supplementary Figure S1. Type locality [Ülemez-Horozlar (ca. 2 km NE of Çandır), Köyceğiz district, Muğla province] of *L. f. ulfetae* ssp. n.



Supplementary Figure S2. *Potamon rhodium*, a natural predator of the *L. f. ulfetae* ssp. n., preying on a male specimen from SW Güzelyurt, Dalaman population.