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*Wildlife Research*

### Supplementary Material

#### **How the goitered gazelle (*Gazella subgutturosa*) adapts to isolated island: from the perspective of habitat and food**

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**Table S1** The evaluation results of sequencing data for fecal sample of the goitered gazelle (*Gazella subgutturosa*) from Luoshan National Nature Reserve. The sample numbers for spring range from S01 to S17, while those for summer are S18-S35.

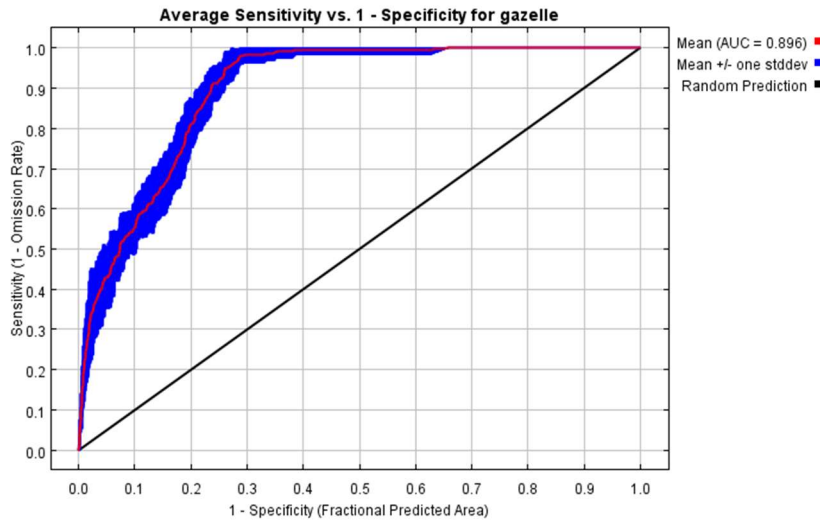
<b>Sample ID</b>	<b>Raw Reads</b>	<b>Clean Reads</b>	<b>Effective Reads</b>	<b>AvgLen (bp)</b>	<b>GC (%)</b>	<b>Q20 (%)</b>	<b>Q30 (%)</b>	<b>Effective (%)</b>
S01	79608	75514	60601	86	40.83	99.95	99.74	76.12
S02	79937	79937	78867	88	39.79	99.95	99.77	98.66
S03	80011	80011	78763	86	40.87	99.95	99.76	98.44
S04	79959	79959	78233	84	39.95	99.96	99.77	97.84
S05	79979	79979	58458	87	39.99	99.95	99.77	73.09
S06	79621	79621	67906	86	40.96	99.95	99.74	85.29
S07	79459	79459	77485	87	39.97	99.95	99.73	97.52
S08	80468	80468	65707	86	40.57	99.95	99.75	81.96
S09	80451	80450	76079	84	41.04	99.91	99.53	94.57
S10	79864	79864	76056	88	40.69	99.92	99.56	95.23
S11	80287	80287	67863	87	40.52	99.91	99.50	84.53
S12	80019	80019	75962	87	40.65	99.92	99.54	94.93
S13	79819	79819	76061	87	40.67	99.92	99.55	95.29
S14	80132	80131	78361	87	40.91	99.91	99.50	97.79
S15	79883	79883	76662	87	41.05	99.91	99.51	95.97
S16	80024	80024	78724	87	40.82	99.90	99.43	98.38
S17	79938	79938	78834	87	40.24	99.94	99.70	98.62
S18	79658	79658	78497	86	40.48	99.95	99.78	98.54
S19	80181	80181	78764	87	40.34	99.94	99.74	98.23
S20	79999	79999	78971	86	40.46	99.96	99.77	98.71
S21	80074	80074	68307	87	40.35	99.95	99.76	85.30
S22	79822	79822	52565	87	40.80	99.94	99.73	65.85
S23	79826	79826	49751	87	40.80	99.94	99.71	62.32
S24	79938	79938	76660	87	40.72	99.94	99.75	95.90
S25	79800	79800	76211	87	40.65	99.94	99.73	95.50
S26	79768	79768	54433	87	40.72	99.96	99.78	68.24
S27	79931	79931	49789	87	40.79	99.95	99.76	62.29
S28	80005	80005	67340	87	40.44	99.96	99.77	84.17
S29	80047	80047	45700	87	40.90	99.95	99.76	57.09
S30	80197	80197	56483	86	40.79	99.95	99.74	70.43
S31	80001	80001	64400	87	40.18	99.95	99.73	80.50
S32	79923	79923	77033	87	41.14	99.94	99.75	96.38
S33	80055	80055	76772	87	40.60	99.94	99.72	95.90
S34	80062	80062	76789	87	40.16	99.96	99.78	95.91
S35	80065	80065	64663	88	40.39	99.95	99.74	80.76

**Table S2** The number of annotated species in individual fecal samples of the goitered gazelle (*Gazella subgutturosa*) from Luoshan National Nature Reserve at different taxonomic levels. The sample numbers for spring range from S01 to S17, while those for summer are S18-S35.

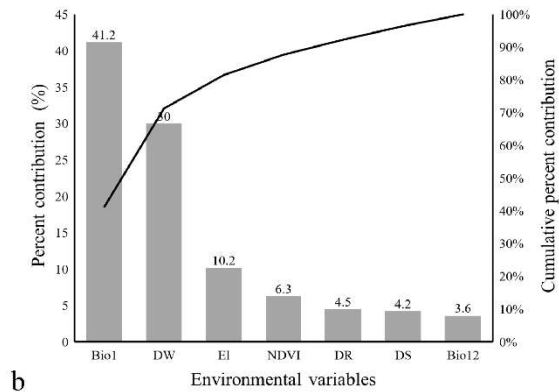
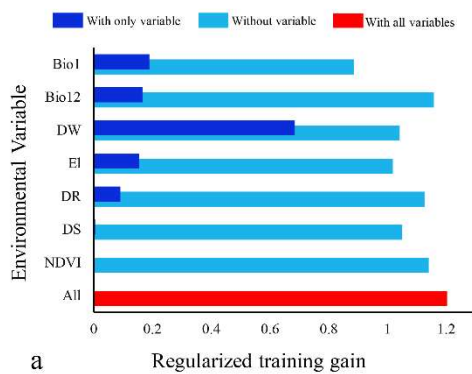
Sample	Class	Order	Family	Genus	Species
S01	2	11	14	19	15
S02	1	7	10	15	13
S03	2	11	14	19	15
S04	1	9	11	16	14
S05	1	10	12	16	14
S06	2	11	13	18	14
S07	2	10	12	16	13
S08	2	11	13	17	13
S09	1	12	14	17	14
S10	1	11	14	18	15
S11	2	12	15	19	16
S12	1	11	14	19	16
S13	1	11	14	19	16
S14	1	11	14	19	16
S15	1	11	13	17	15
S16	1	11	14	18	16
S17	1	12	15	18	16
S18	1	13	16	19	16
S19	1	13	16	19	16
S20	1	13	16	20	17
S21	2	11	13	16	14
S22	2	11	14	18	15
S23	3	14	16	20	16
S24	1	11	13	18	16
S25	1	11	14	20	17
S26	2	11	13	18	15
S27	3	12	14	18	15
S28	2	10	12	15	14
S29	2	11	13	19	15
S30	1	11	14	18	15
S31	2	12	15	19	15
S32	1	11	13	16	14
S33	2	12	15	16	15
S34	1	11	14	17	14
S35	2	10	13	15	13
Total	3	15	18	21	17

**Table S3** Plant species identified from 35 feces samples of the goitered gazelle collected from Luoshan National Nature Reserve through DNA metabarcoding technology. The horizontal line indicates species that are not annotated at this taxonomic level.

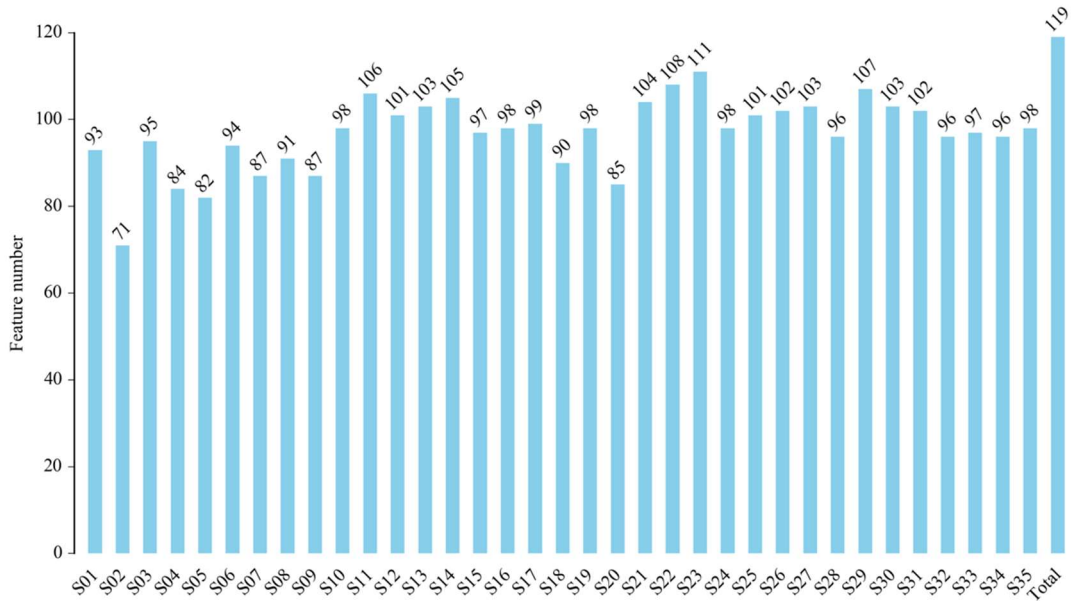
Class	Order	Family	Genus	Species
Magnoliopsida	Fabales	Fabaceae	<i>Astragalus</i>	<i>Astragalus scaberrimus</i>
			<i>Glycyrrhiza</i>	<i>Glycyrrhiza uralensis</i>
			<i>Lespedeza</i>	<i>Lespedeza davurica</i>
			<i>Ononis</i>	—
		Polygalaceae	<i>Polygala</i>	<i>Polygala sibirica</i>
	Rosales	Rosaceae	<i>Prunus</i>	<i>Prunus sibirica</i>
			<i>Amelanchier</i>	<i>Amelanchier ovalis</i>
			<i>Rubus</i>	<i>Rubus nishimuranus</i>
		Ulmaceae	<i>Ulmus</i>	<i>Ulmus glabra</i>
	Asterales	Asteraceae	<i>Senecio</i>	<i>Senecio dubitabilis</i>
		Campanulaceae	<i>Adenophora</i>	—
	Caryophyllales	Caryophyllaceae	<i>Gypsophila</i>	<i>Gypsophila davurica</i>
	Dipsacales	Caprifoliaceae	<i>Knautia</i>	<i>Knautia dipsacifolia</i>
	Sapindales	Rutaceae	<i>Haplophyllum</i>	<i>Haplophyllum dauricum</i>
	Poales	Poaceae	<i>Stipa</i>	<i>Stipa baicalensis</i>
	Malpighiales	Linaceae	<i>Linum</i>	<i>Linum alpinum</i>
	Lamiales	Mazaceae	<i>Mazus</i>	<i>Mazus stachydidifolius</i>
	Brassicales	Brassicaceae	<i>Kernera</i>	<i>Kernera saxatilis</i>
	Gentianales	Gentianaceae	—	—
	Asparagas	Amaryllidaceae	<i>Allium</i>	—
Boraginales	Boraginaceae	—	—	
Pinopsida	Pinales	Pinaceae	—	—
	Ephedrales	Ephedraceae	<i>Ephedra</i>	—



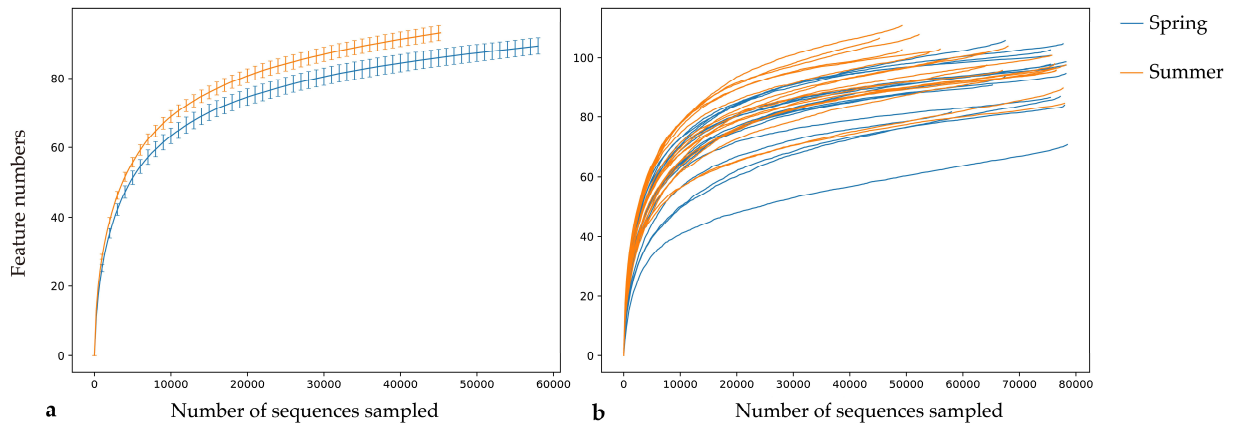
**Figure S1.** Receiver operating characteristic curve of 10 runs of MaxEnt model of the goitered gazelle (*Gazella subgutturosa*) in Luoshan National Nature Reserve. The red line represents the average AUC value. The average AUC value is greater than 0.85, indicating excellent prediction results.



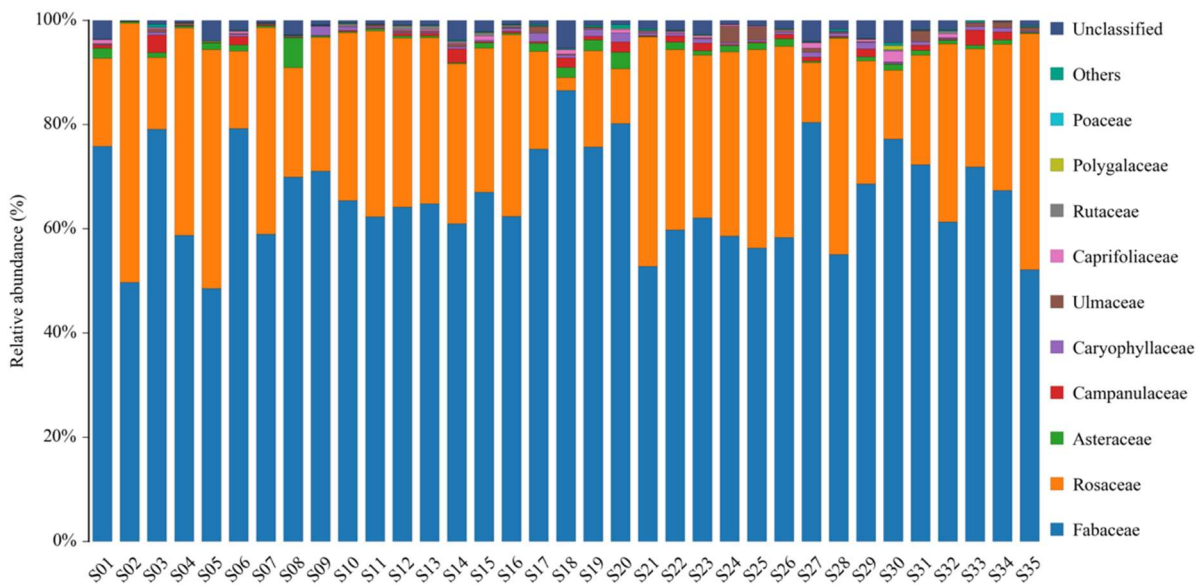
**Figure S2.** The response of environmental variables to the habitat modelling of the goitered gazelle (*Gazella subgutturosa*) in Luoshan National Nature Reserve. (a) Jackknife test of environmental variables in training data by MaxEnt. Different colors represent different statistical conditions; (b) Percent contribution of the environmental variables to the MaxEnt model of goitered gazelle in Luoshan National Nature Reserve.



**Figure S3.** Statistics on the number of OTUs in the fecal samples of goitered gazelle (*Gazella subgutturosa*) in Luoshan National Nature Reserve. The sample numbers for spring range from S01 to S17, while those for summer are S18-S35.



**Figure S4.** The rarefaction curve is drawn by randomly selecting a certain number of sequences sampled. The sequence is derived from the goitered gazelle (*Gazella subgutturosa*) feces of the Luoshan National Nature Reserve. **(a)** Plot based on the average number of OTUs in different seasons; **(b)** Plot based on the number of OTUs for a single fecal sample.



**Figure S5.** At the family level, the plant composition in different fecal samples of the goitered gazelle (*Gazella subgutturosa*) from the Luoshan National Nature Reserve. The length of the bar represents the relative abundance of the plant.