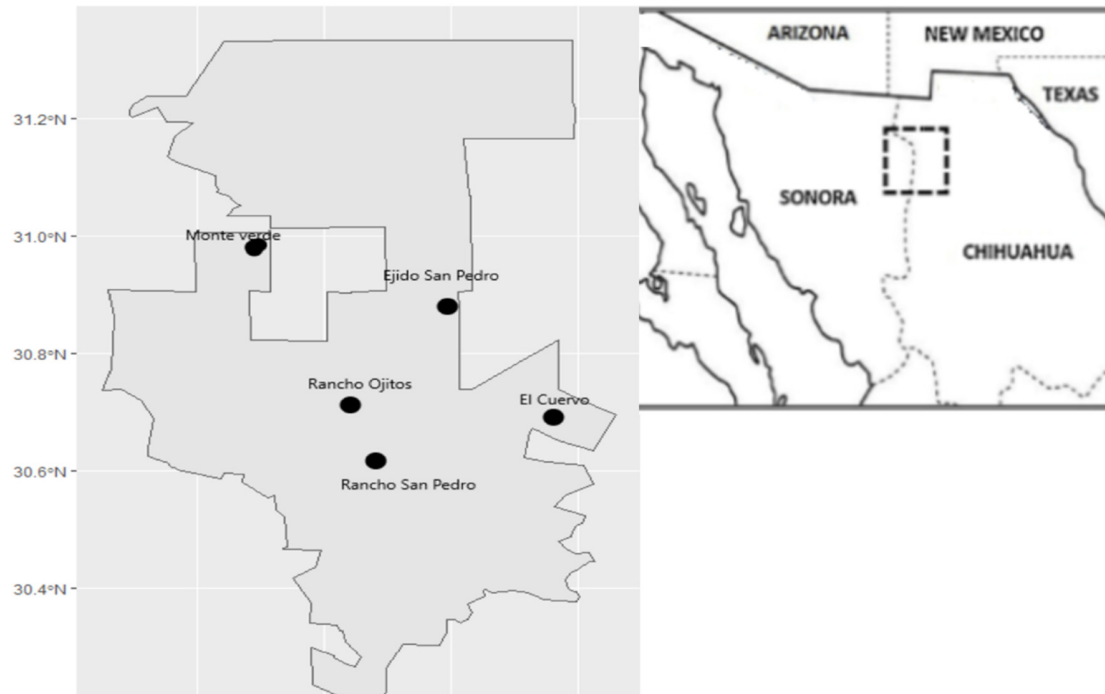


Supplementary tables and figures



Supplementary Figure S1. Localization of the study area and sampling sites: a sampling point localization. Box with discontinuous borders represent study area (Janos Biosphere Reserve), black circles represent the five sampling locations.

Supplementary Table S1. Primer sequences and conditions for *Salmonella* and *E. coli* genetic characterization by PCR.

Name	Sequence (forward/reverse)	Cycle conditions	Amplicon	Ref.	Function
16ITS	5'-TGCGGCTGGATCACCTCCTT-3' / 5'-TATAGCCCCATCGTGTAGTCAGAAC-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 57 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	312	[1]	component of the prokaryotic ribosome 30S subunit
<i>invA</i>	5'-GTGAAATTATCGCCACGTTTCGGGCAA-3' / 5'-TCATCGCACCGTCAAAGGAACC-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 57 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	280	This study	component of the System secretion type III
<i>sopE</i>	5'-GTGACAAAAATAACTTTATCT-3' / 5'-GGGAGTGTATTGTATATATTT-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 43.5 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	700	This study	Toxin associated with invasion
<i>cdtB</i>	5'-ATTTCTTTTGCCTGCGC-3' / 5'-GATCAGAAGCGAGTTGTGG-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 44 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	700	This study	Subunit of the cytolethal distending toxin
<i>stdA</i>	5'-ATGCGTAATAAAATAAATACTTGCC-3' / 5'-ATTCAGGGTGTAGGTGACG-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 50 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	550	This study	Fimbrial protein
<i>lpfA</i>	5'-ATGGAGTTTTTAATGAAAAAGGTT-3' / 5'-GGACAGGTTGAAGTCCACTT-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 50 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	310	This study	Fimbrial protein
<i>stfA</i>	5'-ATGAATACAGCAGTAAAAGCTG-3' / 5'-ATCGTGAAGTTTACGGTGC-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 50 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	330	This study	Fimbrial protein
<i>bcfA</i>	5'-ATGAAAAAGCCTGTACTAGCATTAAT-	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 55 °C 1 min and	539	This study	Fimbrial protein

	3'/5'- GGAATAAACCATGCTAAATGTCG-3'	72 °C 2 min; 1 cycle 72 °C 5 min			
<i>stiA</i>	5'- ATGAAACTCTCCTTAAAAACACTCAC- 3'/5'- CAGTTATATTGCAGATAGAATGTTGC- 3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 55 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	539	This study	Fimbrial protein
<i>stbA</i>	5'-ATGGCTGTTTCTGATAACACC-3'/5'- CAGCGACTGTCCCAGC-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 55 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	444	This study	Fimbrial protein
<i>steA</i>	5'-ATGGGAATTGTCTCCGG-3'/5'- ACAGGTAAGAGATAGTGACGTTG-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 55 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	537	This study	Fimbrial protein
<i>fimA</i>	5'-ATGACCTCTACTATTGCGAGTCT-3'/ 5'-ATGATAAAGGTGGCGTCG-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 55 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	529	This study	Fimbrial protein
<i>sefA</i>	5'-ATGCGTAAATCAGCATCTGC-3'/5'- ATACTGCTGAACGTAGAAGGTCG-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 55 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	488	This study	Fimbrial protein
<i>eae</i>	3'-CGGGGACATTTTAGTCA-5'/ 5'-GATCAGAAGCGAGTTGTGG-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 56 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	600	This study	Intimin of E. coli
<i>escV</i>	3'-GGCTCTCTTCTTCTTTATGGCTG-5'/ 5'-CCTTTTACAACTTCATCGCC-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 56 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	534	[2]	component of the System Secretion type III
<i>bfpB</i>	3'-GATAAAACTGATACTGGGCAGC-5'/ 5'-AGTGACTGTTCCGGGAAGCAC-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 57 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	826	[2]	Fimbrial protein

<i>stx1</i>	3'-GGCGTTCTTATGTAATGACTGC-5'/ 5'-ATCCACGGAAGTCTTCCATC-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 57 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	250	[2]	Subunit of Shiga toxin
<i>stx2</i>	3'-CGTTTTGACCATCTTCGTCTG-5'/ 5'-AGCGTAAGGCTTCTGCTGTG-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 57 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	325	[2]	Subunit of Shiga toxin
<i>st</i>	3'- TAGAGACCGGTATTACAGAAATCTGA- 5'/ 5'- TCATCCCGAATTCTGTTATATATGTC-3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 60 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	282	This study	Thermostable toxin
<i>lt</i>	3'-GGGTTGGCAATTTTATTTCTGTA-5'/ 5'-ATTACAACAAAGTTCACAGCAGTA- 3'	1 cycle 94 °C 5 min; 35 cycles 94 °C 1 min, 60 °C 1 min and 72 °C 2 min; 1 cycle 72 °C 5 min	183	This study	Thermolabile toxin

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2. Müller, D.; Hagedorn, P.; Brast, S.; Heusipp, G.; Bielaszewska, M.; Friedrich, A.W.; Karch, H.; Schmidt, M.A. Rapid identification and differentiation of clinical isolates of enteropathogenic *Escherichia coli* (EPEC), atypical EPEC, and Shiga toxin-producing *Escherichia coli* by a one-step multiplex PCR method. *J. Clin. Microbiol.* **2006**, *44*, 2626–2629.

Supplementary Table S2. Characteristics of *E. coli* strains isolated from carnivores.

Specie	Strain name	Serotype		Virulence genes	Phylogroup
		O	H		
<i>Vulpes macrotis</i>	20-BVul4	O153	H21	<i>escV-eae</i>	Unknown
<i>Vulpes macrotis</i>	20-BVul5	O153	H21	<i>eae</i>	Unknown
<i>Vulpes macrotis</i>	20-BVul6	O153	H21	<i>escV-eae</i>	Unknown
<i>Vulpes macrotis</i>	20-BVul7	O153	H21	<i>escV-eae</i>	Unknown
<i>Vulpes macrotis</i>	20-BVul8	O153	H21	<i>escV-eae</i>	Unknown
<i>Vulpes macrotis</i>	20-BVul12	O153	H21	<i>escV-eae</i>	E
<i>Vulpes macrotis</i>	20-BVul25	O153	H21	<i>escV-eae</i>	Unknown
<i>Vulpes macrotis</i>	20-BVul28	O153	H21	<i>Eae</i>	Unknown
<i>Vulpes macrotis</i>	20-Bvul30	O175	H16	<i>escV</i>	Unknown
<i>Vulpes macrotis</i>	39-BrVul28	O139	H21	<i>escv</i>	Unknown
<i>Vulpes macrotis</i>	39-BrVul18	O139	H21	<i>eae</i>	Unknown
<i>Vulpes macrotis</i>	39-BrVul20	O139	H21	<i>eae</i>	Unknown
<i>Vulpes macrotis</i>	39-BrVul31	O139	H21	<i>escV</i>	Unknown
<i>Vulpes macrotis</i>	39-BrVul5	O153	H7	<i>escV</i>	Unknown
<i>Vulpes macrotis</i>	39-BrVul7	O153	H7	<i>escV</i>	Unknown
<i>Vulpes macrotis</i>	39-BrVul8	O153	H7	<i>escV</i>	Unknown
<i>Vulpes macrotis</i>	39-BrVul23	O153	H7	<i>escv</i>	Unknown
<i>Vulpes macrotis</i>	39-BVul23	O153	H7	<i>eae</i>	Unknown
<i>Vulpes macrotis</i>	39-BVul24	O153	H7	<i>eae</i>	Unknown
<i>Vulpes macrotis</i>	39-BrVul25	O153	H7	<i>escV</i>	Unknown
<i>Vulpes macrotis</i>	39-BrVul26	O153	H7	<i>escV</i>	D
<i>Vulpes macrotis</i>	39-BrVul29	O153	H7	<i>escV</i>	E
<i>Vulpes macrotis</i>	39-BrVul27	O139	H?	<i>escV</i>	Unknown
<i>Canis latrans</i>	26-BCoy3	O75	H38	<i>stx1-stx2</i>	Unknown
<i>Canis latrans</i>	26-BCoy19	O75	H38	<i>stx1-stx2</i>	Unknown
<i>Canis latrans</i>	26-BCoy6	O17	H18	<i>stx1-stx2</i>	Unknown
<i>Canis latrans</i>	35-BCoy26	O21	H21	<i>stx2</i>	Unknown
<i>Canis latrans</i>	35-BCoy27	O21	H21	<i>stx2</i>	Unknown
<i>Canis latrans</i>	35-BCoy35	O21	H21	<i>stx2</i>	Unknown
<i>Canis latrans</i>	35-BCoy36	O21	H21	<i>stx2</i>	Unknown
<i>Canis latrans</i>	Coy 3-19	O110	H28	<i>stx1-stx2</i>	Unknown
<i>Canis latrans</i>	Coy 3-31	O110	H28	<i>stx1-stx2</i>	Unknown
<i>Canis latrans</i>	35-BCoy5	O ?	H11	<i>stx2</i>	Unknown
<i>Canis latrans</i>	35-BCoy9	O ?	H11	<i>stx2</i>	Unknown
<i>Canis latrans</i>	35-BCoy14	O ?	H11	<i>stx2</i>	Unknown
<i>Canis latrans</i>	35-BCoy16	O ?	H11	<i>stx2</i>	D
<i>Canis latrans</i>	35-BCoy17	O ?	H11	<i>stx2</i>	Unknown

<i>Canis latrans</i>	35-BCoy21	O ?	H11	<i>stx2</i>	Unknown
<i>Canis latrans</i>	35-BCoy23	O ?	H11	<i>stx2</i>	Unknown
<i>Canis latrans</i>	35-BCoy24	O ?	H11	<i>stx2</i>	D
<i>Canis latrans</i>	35-BCoy28	O ?	H11	<i>stx2</i>	Unknown
<i>Canis latrans</i>	35-BCoy30	O ?	H11	<i>stx2</i>	Unknown
<i>Canis latrans</i>	35-BCoy31	O ?	H11	<i>stx2</i>	D
<i>Canis latrans</i>	35-BCoy32	O ?	H11	<i>stx2</i>	Unknown
<i>Canis latrans</i>	35-BCoy33	O ?	H11	<i>stx2</i>	Unknown
<i>Mephitis macroura</i>	Meph 15-2	O63	H6	<i>escv</i>	B2
<i>Mephitis macroura</i>	Meph 15-21	O63	H6	<i>escv</i>	B2
<i>Mephitis macroura</i>	Meph 15-22	O63	H6	<i>escv</i>	B2
<i>Mephitis macroura</i>	Meph 15-23	O63	H6	<i>escv</i>	B2
<i>Mephitis macroura</i>	Meph 15-8	O63	H6	<i>escv</i>	B2
<i>Mephitis macroura</i>	Meph 15-27	O63	H6	<i>escv</i>	B2
<i>Mephitis macroura</i>	Meph 15-28	O63	H6	<i>escV-eae</i>	B2
<i>Mephitis macroura</i>	Meph 15-5	O96	H49	<i>escv</i>	B2
<i>Mephitis macroura</i>	Meph 15-6	O96	H49	<i>escv</i>	B2
<i>Mephitis macroura</i>	Meph 15-24	O96	H49	<i>escv</i>	B2
<i>Mephitis macroura</i>	Meph 15-12	O96	H49	<i>escv</i>	D
<i>Mephitis macroura</i>	Meph 18-7	O93	H?	<i>stx1</i>	A
<i>Mephitis macroura</i>	Meph 18-8	O93	H?	<i>stx1</i>	A
<i>Mephitis macroura</i>	Meph 18-17	O93	H?	<i>stx1</i>	A
<i>Mephitis macroura</i>	Meph 15-12	nd	nd	<i>escv</i>	B2
<i>Mephitis macroura</i>	Meph 15-1	nd	nd	<i>escV</i>	B2