Supporting Information

Sheppard et al. 10.1073/pnas.1305559110

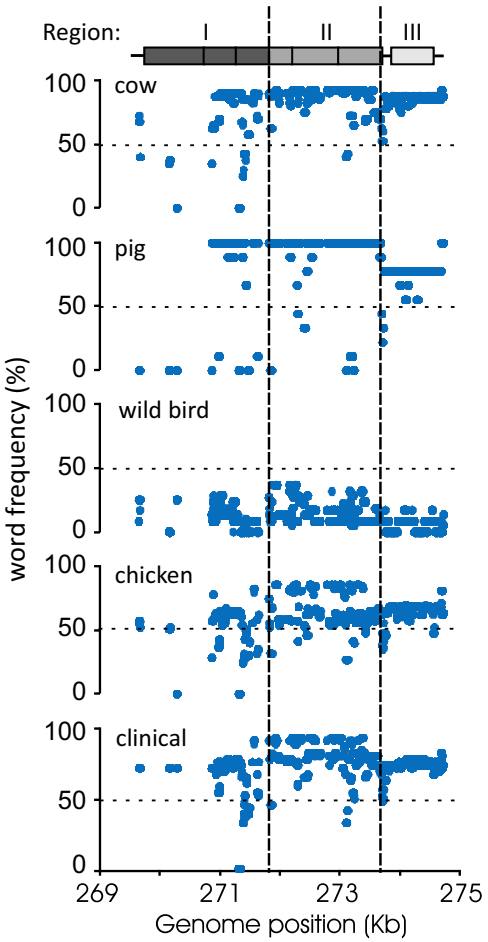

Fig. S1. Distribution of cattle-associated words in isolates from a different host. Words identified in the largest host-associated region in sequence type (ST)-45 complex isolates were quantified in isolates from other clonal complexes. The number of host-associated words that map to the DNA sequence across the main host cattle-associated island (region 3) was determined for each isolate. The percentage of isolates containing cattle-associated words is shown graphically for each isolate host group. (*Top* to *Bottom*) These include cow, pig, wild bird, chicken, and clinical samples. For each host graph, a horizontal line shows the level if 50% of the isolates contain the word. Three regions (I–III) are identified based on the relative frequency of words.

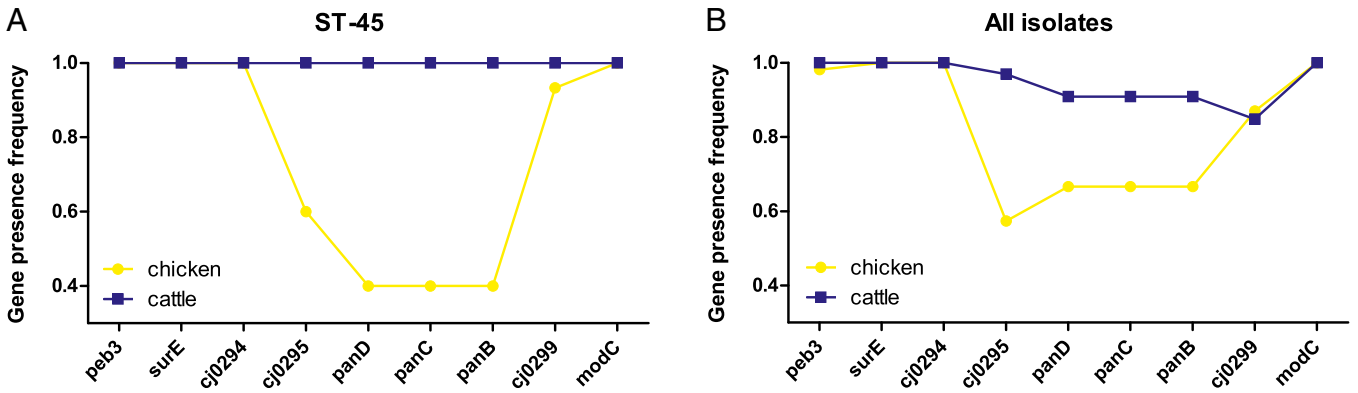

Fig. S2. Prevalence of genes from the host-associated island in cattle- and chicken-associated *Campylobacter jejuni* isolates from the ST-45 clonal complex (*A*; $n = 22$) and from all isolates sequenced in this study (*B*). Prevalence in cattle-associated isolates is indicated by the blue lines, and that in chicken-associated isolates is indicated by the yellow lines. (Left to Right) The order of genes is inferred based on synteny in *C. jejuni* reference strain 11168 at this locus. The presence or absence of the genes was defined using the BLAST function in the Bacterial Isolate Genome Sequence Database, with present genes defined as having a minimum of 70% sequence identity and 50% alignment length.

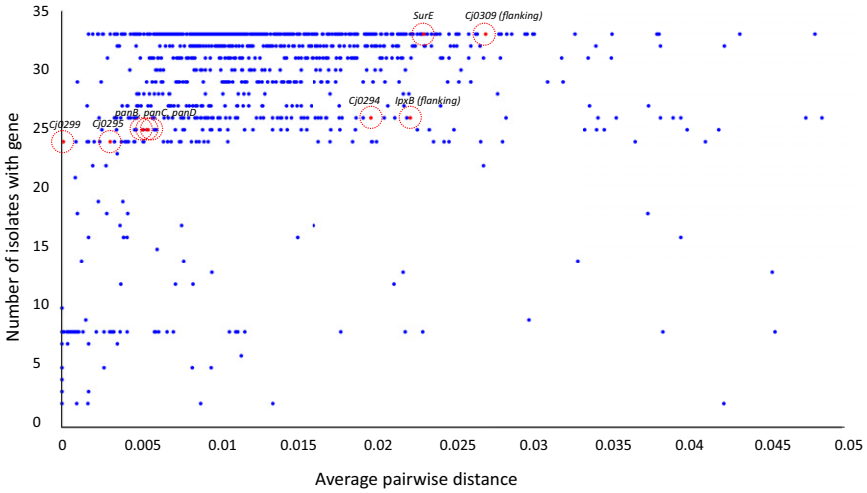

Fig. S3. Scatter plot showing the genes contained in the main host-associated region in red and all 1,028 genes found in some but not all the genomes in blue. The *x* axis represents the average distance between isolates in which the genes were found, and the *y* axis shows the number of genomes in which the gene was found.

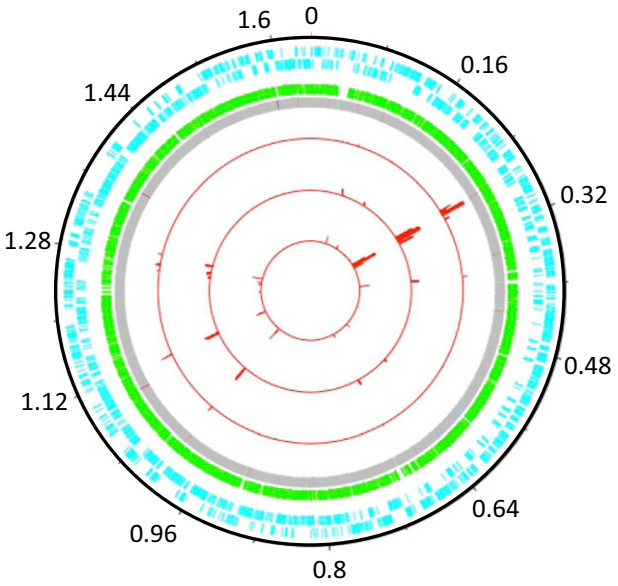

Fig. S4. Distribution of host-associated words with a length of 20 bp (outer ring), 30 bp (middle ring), and 40 bp (inner ring) mapped on the reference genome NCTC11168. This figure was prepared using Artemis (1) and DNAPlotter (2).

1. Rutherford K, et al. (2000) Artemis: Sequence visualization and annotation. *Bioinformatics* 16(10):944–945.
2. Carver T, Thomson N, Bleasby A, Berriman M, Parkhill J (2009) DNAPlotter: Circular and linear interactive genome visualization. *Bioinformatics* 25(1):119–120.

Table S1. Isolate details

Isolate	Aliases*	*Campylobacter* species	ST†	CC‡	Clade	Total length, bp	Source
4	C8, H042160062	*C. jejuni*	45	45	—	1,596,969	Chicken
13	7802A	*C. jejuni*	61	61	—	1,551,351	Cattle
14	PH325	*C. jejuni*	2,381		—	1,543,877	Water
22	48321	*C. jejuni*	257	257	—	1,573,736	Chicken
26	NC_009839	*C. jejuni*	267	283	—	1,628,115	Clinical
27	NC_008787	*C. jejuni*	604	42	—	1,616,554	Clinical
28	NC_003912	*C. jejuni*	354	354	—	1,777,831	Clinical
29	NC_002163	*C. jejuni*	43	21	—	1,641,481	Clinical
30	7487	*C. jejuni*	1,044	658	—	1,613,621	Clinical
32	45	*C. jejuni*	11	45	—	1,650,105	Clinical
34	526	*C. jejuni*	262	21	—	1,643,032	Clinical
36	2850	*C. jejuni*	266	21	—	1,695,272	Clinical
37	5075	*C. jejuni*	883	21	—	1,667,560	Clinical
39	6618B	*C. jejuni*	2,219	45	—	1,616,482	Chicken
40	7030A2	*C. jejuni*	21	21	—	1,726,327	Chicken
42	7620	*C. jejuni*	42	42	—	1,672,737	Cattle
43	7511	*C. jejuni*	51	443	—	2,069,686	Chicken
45	7648-2	*C. jejuni*	583	45	—	1,609,163	Chicken
48	7938-1	*C. jejuni*	206	206	—	1,671,619	Cattle
49	8058	*C. jejuni*	38	48	—	1,663,148	Cattle
52	8697	*C. jejuni*	334	45	—	1,616,567	Cattle
54	6760	*C. jejuni*	267	283	—	1,591,217	Chicken
55	4153	*C. jejuni*	230	45	—	1,625,711	Clinical
56	7816	*C. jejuni*	45	45	—	1,607,778	Cattle
57	6764	*C. jejuni*	334	45	—	1,620,325	Chicken
59	8464	*C. jejuni*	21	21	—	1,705,325	Cattle
60	274	*C. jejuni*	53	21	—	1,658,292	Clinical
62	8606	*C. jejuni*	21	21	—	1,658,436	Cattle
63	7366	*C. jejuni*	21	21	—	1,679,349	Chicken
64	7031	*C. jejuni*	814	661	—	1,698,035	Chicken
65	10040	*C. jejuni*	104	21	—	1,761,202	Chicken
66	S07-4547	*C. jejuni*	353	353	—	1,776,210	Chicken
67	508-2669	*C. jejuni*	354	354	—	1,688,706	Chicken
68	508-3501	*C. jejuni*	573	573	—	1,838,022	Chicken
69	508-3789	*C. jejuni*	2,568	661	—	1,821,236	Chicken
70	508-2426	*C. jejuni*	45	45	—	1,595,762	Chicken
71	508-3754	*C. jejuni*	50	21	—	1,689,713	Chicken
72	S07-0761	*C. jejuni*	50	21	—	1,692,341	Chicken
73	S07-2406	*C. jejuni*	53	21	—	1,651,079	Chicken
74	S07-1597	*C. jejuni*	262	21	—	1,606,379	Chicken
75	S08-0575	*C. jejuni*	266	21	—	1,693,845	Chicken
77	508-2543	*C. jejuni*	50	21	—	1,692,435	Chicken
78	508-2574	*C. jejuni*	50	21	—	1,693,941	Chicken
79	508-2327	*C. jejuni*	11	45	—	1,645,238	Chicken
80	S07-0533	*C. jejuni*	2,030	257	—	1,734,017	Chicken
81	S07-0175	*C. jejuni*	1,003	45	—	1,617,200	Chicken
82	S07-S237	*C. jejuni*	45	45	—	1,631,119	Chicken
83	508-2836	*C. jejuni*	354	354	—	1,667,030	Chicken
84	508-2944	*C. jejuni*	45	45	—	1,605,483	Chicken
85	97	*C. jejuni*	3,583	42	—	1,654,563	Cattle
86	82	*C. jejuni*	61	61	—	1,659,558	Cattle
87	158	*C. jejuni*	273	206	—	1,715,399	Cattle
88	111	*C. jejuni*	270	403	—	1,716,038	Cattle
89	185	*C. jejuni*	21	21	—	1,659,711	Cattle
90	113	*C. jejuni*	45	45	—	1,603,131	Cattle
91	218	*C. jejuni*	45	45	—	1,602,224	Cattle
92	222	*C. jejuni*	45	45	—	1,607,691	Cattle
94	195	*C. jejuni*	104	21	—	1,762,939	Cattle
96	77	*C. jejuni*	61	61	—	1,894,874	Cattle
97	87	*C. jejuni*	19	21	—	1,629,692	Cattle
99	130	*C. jejuni*	206	206	—	1,720,953	Cattle
100	124	*C. jejuni*	137	45	—	1,626,334	Cattle
102	165	*C. jejuni*	583	45	—	1,607,515	Cattle

Table S1. Cont.

Isolate	Aliases*	*Campylobacter* species	ST†	CC‡	Clade	Total length, bp	Source
103	39	*C. jejuni*	334	45	—	1,641,790	Cattle
104	234	*C. jejuni*	45	45	—	1,654,338	Cattle
105	F7A20	*C. jejuni*	257	257	—	1,697,013	Chicken
106	F2B7	*C. jejuni*	51	443	—	1,714,044	Chicken
107	F6_8	*C. jejuni*	1,079	573	—	1,838,061	Chicken
108	F10A2	*C. jejuni*	574	574	—	1,743,461	Chicken
109	F8C6	*C. jejuni*	814	661	—	1,759,789	Chicken
110	F12B1	*C. jejuni*	21	21	—	1,656,261	Chicken
111	F4A6	*C. jejuni*	45	45	—	1,649,834	Chicken
112	F7C3	*C. jejuni*	45	45	—	1,618,948	Chicken
113	F7B1	*C. jejuni*	883	21	—	1,665,144	Chicken
114	F9C2	*C. jejuni*	230	45	—	1,633,592	Chicken
116	585	*C. jejuni*	21	21	—	1,656,471	Clinical
117	3	*C. jejuni*	21	21	—	1,697,696	Clinical
119	5	*C. jejuni*	45	45	—	1,621,668	Clinical
122	CT43850	*C. jejuni*	177	177	—	1,582,720	Starling
124	CT86857_2.6.4	*C. jejuni*	45	45	—	1,603,669	Starling
125	CL95044_4.6.4	*C. jejuni*	1,020	682	—	1,578,916	Starling
126	Goose255	*C. jejuni*	1,033	1,034	—	1,663,834	Goose
127	Goose122	*C. jejuni*	45	45	—	1,538,093	Goose
128	Goose95	*C. jejuni*	137	45	—	1,600,143	Goose
129	Goose3	*C. jejuni*	696	1,332	—	1,561,449	Goose
130	Duck229	*C. jejuni*	702	702	—	1,669,953	Duck
131	Duck184	*C. jejuni*	45	45	—	1,616,162	Duck
172	Cj129-258	*C. jejuni*	459	42	—	1,643,841	Cattle
173	Cj51494	*C. jejuni*	4,834	353	—	1,799,590	Chicken
174	CjLMG23216	*C. jejuni*	4,835		—	1,708,741	Chicken
175	CjLMG23218	*C. jejuni*	48	48	—	1,677,541	Chicken
176	CjLMG23223	*C. jejuni*	791		—	1,701,738	Chicken
177	CjLMG23263	*C. jejuni*	3,504	446	—	1,739,638	Chicken
178	Cj60004	*C. jejuni*	4,836		—	1,674,182	Chicken
179	CjLMG23264	*C. jejuni*	46	206	—	1,719,111	Clinical
180	CjLMG23269	*C. jejuni*	4,837	353	—	1,735,582	Chicken
181	Cj55037	*C. jejuni*	45	45	—	1,598,300	Chicken
182	CjLMG9879	*C. jejuni*	47	21	—	1,650,086	Clinical
183	Cj86605	*C. jejuni*	4,840	48	—	1,637,051	Chicken
184	CjLMG23357	*C. jejuni*	4,883	1,275	—	1,694,896	Clinical
185	CjATCC33560T	*C. jejuni*	403	403	—	1,714,676	Cattle
186	CjLMG9081	*C. jejuni*	52	52	—	1,593,688	Clinical
187	Cj53161	*C. jejuni*	4,838	353	—	1,730,741	Chicken
188	CjLMG9217	*C. jejuni*	443	443	—	1,663,474	Clinical
189	Cj2008-1025	*C. jejuni*	50	21	—	1,656,768	Clinical
190	Cj2008-894	*C. jejuni*	1,962		—	1,627,102	Clinical
191	Cj2008-872	*C. jejuni*	61	61	—	1,605,881	Clinical
192	Cj2008-988	*C. jejuni*	572	206	—	1,818,384	Clinical
193	Cj1997-1	*C. jejuni*	658	658	—	1,603,628	Clinical
194	Cj2008-979	*C. jejuni*	2,274		—	1,798,587	Clinical
195	Cj2008-831	*C. jejuni*	50	21	—	1,606,170	Clinical
196	Cj1997-4	*C. jejuni*	475	48	—	1,669,690	Clinical
197	Cj1997-7	*C. jejuni*	61	61	—	1,633,444	Clinical
198	Cj1997-10	*C. jejuni*	4,839		—	1,791,227	Clinical
199	Cj1997-11	*C. jejuni*	22	22	—	1,598,427	Clinical
200	Cj1997-14	*C. jejuni*	5,159	353	—	1,767,166	Clinical
201	Cj51037	*C. jejuni*	939	353	—	1,747,053	Chicken
202	Cj110-21	*C. jejuni*	982	21	—	1,615,152	Cattle
203	Cj87330	*C. jejuni*	50	21	—	1,618,859	Chicken
204	Cj87459	*C. jejuni*	452	353	—	1,772,922	Chicken
205	Cj140-16	*C. jejuni*	5,161	61	—	1,677,874	Cattle
206	Cj1213	*C. jejuni*	132	508	—	1,673,339	Cattle
207	CjATCC43432	*C. jejuni*	122	206	—	1,703,446	Clinical
208	Cj1798	*C. jejuni*	61	61	—	1,604,776	Cattle
209	Cj1854	*C. jejuni*	922		—	1,619,643	Cattle

Table S1. Cont.

Isolate	Aliases*	*Campylobacter* species	ST†	CC‡	Clade	Total length, bp	Source
210	Cj1893	*C. jejuni*	38	48	—	1,700,567	Cattle
211	Cj1928	*C. jejuni*	806	21	—	1744,799	Cattle
212	CjLMG9872	*C. jejuni*	677	677	—	1,619,961	Clinical
213	Cj23210	*C. jejuni*	380		—	1,762,534	Chicken
214	CjLMG23211	*C. jejuni*	220	179	—	1,669,921	Chicken
2	171, F79015	*C. coli*	867	828	1	1,678,444	Clinical
5	8993-2D	*C. coli*	2,696		1	1,589,408	Pig
15	Pig faeces1, PW1	*C. coli*	887	828	1	1,594,196	Pig
17	C138, H044280266	*C. coli*	867	828	1	1,633,576	Chicken
18	151B, B51, C28	*C. coli*	3,667	1,150	1	1,618,028	Chicken
19	182	*C. coli*	2,177	828	1	1,678,945	Clinical
20	C4B19	*C. coli*	1,487	1,150	1	1,505,418	Chicken
21	C4 B30	*C. coli*	828	828	1	1,566,888	Chicken
23	8866, Duck323	*C. coli*	3,311		1	1,431,051	Duck
24	BB 2617	*C. coli*	828	828	1	1,570,976	Chicken
25	911	*C. coli*	3,136		1	1,657,253	Clinical
44	7613-2	*C. coli*	1,009		1	1,696,727	Chicken
98	156	*C. coli*	827	828	1	1,700,098	Cattle
132	Cc111-3	*C. coli*	1,467	828	1	1,784,160	Pig
133	Cc90-3	*C. coli*	3,862		1	1,763,407	Pig
134	CcZ163	*C. coli*	3,336	828	1	1,676,266	Chicken
135	Cc2548	*C. coli*	1,167		1	1,855,950	Chicken
136	Cc2553	*C. coli*	825	828	1	1,822,898	Chicken
137	Cc2680	*C. coli*	3,872	828	1	1,817,347	Chicken
138	Cc2685	*C. coli*	1,082	828	1	1,761,587	Chicken
139	Cc2688	*C. coli*	1,017	828	1	1,797,366	Chicken
140	Cc2692	*C. coli*	860	828	1	1,764,946	Chicken
141	Cc2698	*C. coli*	829	828	1	1,808,789	Chicken
142	Cc84-2	*C. coli*	1,113	828	1	1,700,441	Pig
143	Cc80352	*C. coli*	1,017	828	1	1,948,336	Chicken
144	Cc86119	*C. coli*	825	828	1	1,737,119	Chicken
145	Cc1091	*C. coli*	1,068	828	1	1,654,669	Cattle
146	Cc1098	*C. coli*	1104	828	1	1,765,589	Cattle
147	Cc1148	*C. coli*	1,068	828	1	1,702,760	Cattle
148	Cc1417	*C. coli*	3,221	828	1	1,773,147	Cattle
149	Cc132-6	*C. coli*	3,221	828	1	1,773,147	Pig
150	Cc1891	*C. coli*	1,068	828	1	1,654,803	Cattle
151	Cc1909	*C. coli*	1,104	828	1	1,705,267	Cattle
152	Cc59-2	*C. coli*	890	828	1	1,764,317	Pig
153	Cc1948	*C. coli*	1,104	828	1	1,703,540	Cattle
154	Cc1957	*C. coli*	2,698	828	1	1,826,730	Cattle
155	Cc1961	*C. coli*	1,104	828	1	1,770,268	Cattle
156	Cc202/04	*C. coli*	1,585	828	1	1,674,643	Clinical
157	Cc67-8	*C. coli*	1,061	828	1	1,856,922	Pig
158	Cc317/04	*C. coli*	5,160	1,150	1	1,751,938	Clinical
159	CcLMG9854	*C. coli*	1,068	828	1	1,716,566	Clinical
160	CcLMG23336	*C. coli*	3,868	828	1	1,664,441	Clinical
161	CcLMG23341	*C. coli*	855	828	1	1,616,262	Clinical
162	CcLMG23342	*C. coli*	855	828	1	1,623,541	Clinical
163	CcLMG23344	*C. coli*	1,586	828	1	1,798,140	Clinical
164	Cc151-9	*C. coli*	1,102		1	1,680,175	Pig
165	CcLMG9853	*C. coli*	3,869	828	1	1,667,176	Clinical
166	CcLMG9860	*C. coli*	900		1	1,849,541	Clinical
167	CcH6	*C. coli*	3,020	828	1	1,712,639	Clinical
168	CcH8	*C. coli*	901	828	1	1,804,264	Clinical
169	CCH9	*C. coli*	825	828	1	1,673,028	Clinical
170	CcH56	*C. coli*	1,096	828	1	1,737,522	Clinical
171	CcZ156	*C. coli*	854	828	1	1,716,763	Chicken
1	182, 8808	*C. coli*	2,015		2	1,752,685	Duck
10	DFVF 1656, EL1656	*C. coli*	1,572		2	1,660,889	Chicken
11	6873-B	*C. coli*	2,016		2	1,606,337	Duck
12	2544	*C. coli*	2,326		2	1,554,713	Clinical

Table S1. Cont.

Isolate	Aliases*	*Campylobacter* species	ST†	CC‡	Clade	Total length, bp	Source
3	316, FSA05.280042	*C. coli*	1,992		3	1,624,910	Water
6	8096	*C. coli*	2,681		3	1,542,097	Chicken
7	DFVF1912, EL1912	*C. coli*	1,576		3	1,521,545	Chicken
8	4944	*C. coli*	1,670		3	1,547,646	Clinical
9	RM4931	*C. coli*	1,643		3	1,500,025	Clinical

*Isolates with aliases beginning with NC, Cj, and Cc are from a published study (1).
†Sequence type (ST) was derived from the allelic profile of seven housekeeping genes by multilocus sequence typing (MLST).
‡Clonal complex (CC) is defined as including any ST that matches a previously defined central genotype (http://pubmlst.org/campylobacter/) at three or more loci.

1. Lefébure T, Bitar PD, Suzuki H, Stanhope MJ (2010) Evolutionary dynamics of complete *Campylobacter* pan-genomes and the bacterial species concept. *Genome Biol Evol* 2:646–655.

Table S2. List of gene loci with host association signal based on ST-45 analysis

Gene name*	No. of word matches	Description
Cj0030	6	Hypothetical protein
Cj0044c	26	Hypothetical protein
Cj0067	2	Cytosine deaminase and related metal-dependent hydrolases [nucleotide transport and metabolism/general function prediction only]; region: SsnA; COG0402
atpH (Cj0104)	2	ATP synthase delta (OSCP) subunit; region: OSCP; cl00491
Cj0128c	6	Putative inositol monophosphatase family protein
Cj0131	14	Putative peptidase M23 family protein
Cj0133	8	Putative glycoprotease family protein
Cj0143c	28	Putative periplasmic solute binding protein for ABC transport system
miaA (Cj0166)	32	tRNA δ(2)-isopentenylpyrophosphate transferase
Cj0182	8	Putative transporter
Cj0189c	18	Conserved hypothetical protein
Cj0190c	12	Conserved hypothetical protein
Cj0256	2	Putative sulfatase family protein
pyrC (Cj0259)	2	Dihydroorotase
Cj0262c	7	Putative methyl-accepting chemotaxis signal transduction protein
Cj0286c	37	Hypothetical protein
greA (Cj0287c)	158	Transcription elongation factor
lpxB (Cj0288c)	1,056	Lipid-A-disaccharide synthase
surE (Cj0293)	140	Stationary phase survival protein
Cj0294	236	Dinucleotide-using enzymes involved in molybdopterin and thiamine biosynthesis family 1
Cj0295	902	Putative acetyltransferase
panD (Cj0296c)	218	Aspartate α-decarboxylase; converts L-aspartate to β-alanine and provides the major route of β-alanine production in bacteria. β-Alanine is essential for the biosynthesis of pantothenate (vitamin B_5)
panC (Cj0297c)	1,040	Pantoate–β-alanine ligase; catalyzes the formation of (R)-pantothenate from pantoate and β-alanine
panB (Cj0298c)	1,450	3-Methyl-2-oxobutanoate hydroxymethyltransferase; catalyzes the formation of tetrahydrofolate and 2-dehydropantoate from 5,10-methylenetetrahydrofolate and 3-methyl-2-oxobutanoate
Cj0299	1,536	Putative periplasmic β-lactamase
modC (Cj0300c)	112	Putative molybdenum transport ATP-binding protein
Cj0309c	216	Putative efflux protein
Cj0310c	124	Putative efflux protein
polA (Cj0338c)	30	DNA polymerase I
trpE (Cj0345)	8	Putative anthranilate synthase component I
cmeB (Cj0366c)	4	Inner membrane efflux transporter
Cj0373	20	2-Hydroxyacid dehydrogenase; involved in the metabolism of aromatic amino acids
Cj0375	20	Probable lipoprotein
pyrF (Cj0381c)	2	Orotidine 5′-phosphate decarboxylase; type 1 subfamily; involved in last step of pyrimidine biosynthesis
Cj0419	24	Putative histidine triad (HIT) family protein
Cj0426	24	Putative ABC transporter ATP-binding protein
Cj0544	20	Putative integral membrane protein
Cj0554	12	Hypothetical protein
Cj0581	26	Dinucleoside polyphosphate hydrolase
Cj0600	18	Hypothetical protein
Cj0617	10	Hypothetical protein
recN (Cj0642)	8	Putative DNA repair protein
Cj0653c	10	Putative aminopeptidase
Cj0660c	14	Putative transmembrane protein
flgH (CJ0687c)	38	Flagellar basal body L-ring protein; part of the flagellar basal body that consists of four rings (L,P, S, and M) mounted on a central rod
Cj0692c	4	Hypothetical protein
rim (Cj0712)	18	Putative 16S rRNA processing protein
Cj0735	38	Putative periplasmic protein
valS (Cj0775c)	6	Valyl-tRNA synthetase
ruvA (Cj0799c)	2	Putative Holliday junction ATP-dependent DNA helicase
thrC (Cj0812)	6	Threonine synthase; catalyzes the formation of L-threonine from O-phospho-L-homoserine
Cj0815	3	Hypothetical protein
dfp (Cj0822)	26	Bifunctional phosphopantothenoylcysteine decarboxylase/phosphopantothenate synthase
trmA (Cj0831c)	4	tRNA (uracil-5)-methyltransferase; catalyzes the formation of 5-methyl-uridine at position 54 in all tRNAs

Table S2. Cont.

Gene name*	No. of word matches	Description
gltX (Cj0845c)	2	Glutamylglutaminyl-tRNA synthetase; charges one glutamine molecule and pairs it with tRNA(Gln)
Cj0848c	20	Conserved hypothetical protein
Cj0879c	32	Putative periplasmic protein
Cj0908	2	Probable periplasmic protein
Cj0937	34	Putative integral membrane protein
Cj0991c	24	Putative oxidoreductase ferredoxin-type electron transport protein
Cj1012c	2	Hypothetical protein
Cj1025c	2	Hypothetical protein
rpsF (Cj1070)	354	30S ribosomal protein S6
leuS (Cj1091c)	22	Leucyl-tRNA synthetase
pglK (Cj1130c)	4	Flippase
htrB (Cj1134)	2	Lipid A biosynthesis lauroyl acyltransferase
Cj1172c	6	Hypothetical protein
cetA (Cj1190c)	264	Bipartate energy taxis response protein
ribA (Cj1218c)	4	Bifunctional 3,4-dihydroxy-2-butanone 4-phosphate synthase/GTP cyclohydrolase II protein
Cj1226c	24	Putative two-component sensor (histidine kinase)
htrA (Cj1228c)	6	Serine protease (protease Do)
hspR (Cj1230)	20	Heat shock transcriptional regulator
glyS (Cj1234)	2	Glycyl-tRNA synthetase subunit β
Cj1257c	2	Putative efflux pump
tyrS (Cj1271c)	20	Tyrosyl-tRNA synthetase; catalyzes the formation of tyrosyl-tRNA(Tyr) from tyrosine and tRNA(Tyr)
Cj1305c	4	Hypothetical protein
pseH (Cj1313)	8	*N*-acetyltransferase specific for PseC product, UDP-4-amino-4,6-dideoxy-β-L-AltNAc
hisH (Cj1315c)	34	Imidazole glycerol phosphate synthase subunit
Cj1321	8	Putative transferase
pseE (Cj1337)	24	Uncharacterized protein conserved in bacteria
maf7 (Cj1342c)	58	Motility accessory factor
Cj1344c	12	Putative DNA-binding/iron metalloprotein/AP endonuclease
Cj1345c	36	Putative periplasmic protein
mobA (Cj1350)	30	Putative molybdopterin-guanine dinucleotide biosynthesis protein
ruvB (Cj1362)	60	Holliday junction DNA helicase
selA (Cj1378)	6	Selenocysteine synthase; catalyzes the formation of selenocysteinyl-tRNA(Sec) from seryl-tRNA (Sec) and L-selenophosphate in selenoprotein biosynthesis
hddA (Cj1425c)	2	Putative D-glycero-D-manno-heptose 7-phosphate kinase
Cj1472c	6	Hypothetical protein
Cj1482c	10	Hypothetical protein
Cj1574c	12	Hypothetical protein
Cj1587c	16	Multidrug transporter membrane component/ATP-binding component
Cj1609	4	Putative sulfate adenylyltransferase
map (Cj1651c)	6	Methionine aminopeptidase; catalyzes the removal of N-terminal amino acids from peptides and arylamides; generally Co(II); however, activity has been shown for some methionine aminopeptidases with Zn, Fe, or Mn
Cj1660	2	Putative integral membrane protein
Cj1662	6	Putative integral membrane protein
Cj1715	8	Putative acetyltransferase
Cj1720	6	Hypothetical protein

ABC, ATP-binding cassette; AltNAc, N-acetyl-β-L-altrosamine; AP, apurinic/apyrimidinic; OSCP, oligomycin sensitivity conferral protein.
*Gene names, numbering, and order are based on the *C. jejuni* strain 11168 annotation (1).

1. Parkhill J, et al. (2000) The genome sequence of the food-borne pathogen *Campylobacter jejuni* reveals hypervariable sequences. *Nature* 403(6770):665–668.

Table S3. Summary table of the ST-45 complex host-associated words in the 10 adaptive regions

ST-45 complex host-associated regions				Presence in none of the ST-45 complex isolates, %							
Hot spot	Start point	Association	Words	Cow	Chicken	Human	Pig	Starling	Duck	Environment	Goose
1	83,876	Cow	48	22	14	18	0	100	7	3	11
2	145,627	Chicken	28	75	64	55	0	100	20	33	100
2	147,776	Cow	4	50	43	34	11	33	20	0	100
3	265,325	Chicken	218	73	66	61	17	74	12	22	50
3	264,454	Cow	7,307	72	54	73	70	2	10	7	23
4	385,105	Cow	60	35	3	14	0	47	20	53	97
5	603,857	Chicken	8	70	63	59	0	100	20	33	58
5	604,762	Cow	26	8	0	2	0	0	0	0	38
6	689,597	Cow	38	0	0	4	0	0	0	0	0
7	766,303	Cow	3	3	2	2	0	0	0	0	0
8	1,005,181	Chicken	180	35	12	24	0	100	23	67	43
8	1,005,181	Cow	174	11	50	32	0	0	13	0	55
9	1,118,362	Chicken	222	10	13	12	33	19	14	34	46
9	1,118,362	Cow	46	23	45	49	11	0	15	0	58
10	1,275,209	Chicken	116	22	33	26	8	78	13	17	30
10	1,266,923	Cow	60	67	64	52	31	50	8	0	33