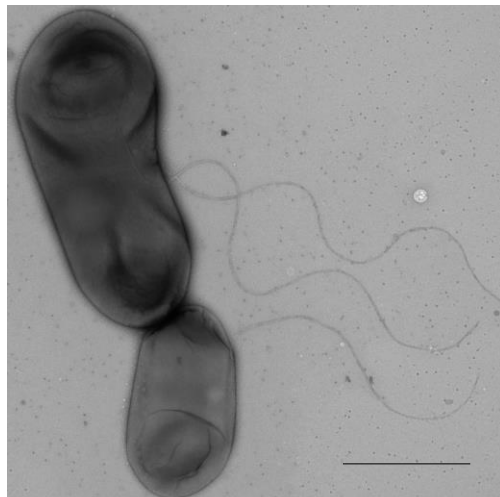




Supplemental Figure S1. Transmission electron micrograph of *Trigonella suavissima* strain CC2017. Bar = 2.0 μm



Supplemental Figure S2. Transmission electron micrograph of *Trigonella suavissima* strain CC2155b. Bar = 1.0 μm .

TABLE S1. Allelic number codes for each of the ten loci in the 61 *Ensifer* chromosomal sequence types (CSTs).

CST	Allele number codes for each locus ^a									
	<i>asd</i>	<i>edD</i>	<i>gap</i>	<i>glnD</i>	<i>gnd</i>	<i>nuoE1</i>	<i>ordL2</i>	<i>recA</i>	<i>sucA</i>	<i>zwf</i>
1	22	26	11	15	19	3	12	5	14	12
2	22	26	11	17	19	3	12	5	14	12
3	22	26	11	15	22	3	12	5	14	12
4	22	26	17	15	19	3	12	5	14	12
5	24	26	11	15	19	3	12	5	14	12
6	24	26	11	17	19	3	12	5	14	12
7	22	40	11	17	29	3	24	24	26	25
8	22	41	11	17	29	3	12	24	26	25
9	22	41	11	23	19	3	12	5	26	25
10	24	43	11	23	19	3	12	5	26	29
11	24	41	11	23	19	3	12	5	26	29
12	23	26	11	17	19	3	12	5	14	12
13	19	26	11	17	19	3	12	5	14	12
14	51	25	16	17	30	21	26	26	14	28
15	51	42	23	17	30	21	26	26	14	28
16	50	26	11	17	19	3	12	5	14	12
17	52	30	16	22	23	3	18	5	14	16
18	23	30	16	13	23	3	18	5	14	16
19	19	30	16	10	23	3	18	5	14	16
20	40	30	16	13	23	3	18	5	14	16
21	23	30	11	13	1	3	18	5	14	16
22	6	29	16	12	8	3	12	5	19	15
23	21	28	15	12	8	3	17	15	28	18

Table S1. (continued).

Allele number codes for each locus ^a										
CST	asd	edD	gap	glnD	gnd	nuoE1	ordL2	recA	sucA	zwf
24	49	45	17	12	8	3	7	5	19	27
25	19	25	5	12	18	3	7	5	15	13
26	23	30	22	13	23	3	17	5	25	24
27	19	1	14	14	21	3	13	5	16	9
28	23	19	16	13	23	3	18	5	14	16
29	19	7	12	10	8	3	13	5	16	9
30	6	7	7	10	8	3	7	5	7	9
31	20	7	13	13	20	14	7	5	17	14
32	19	7	13	13	20	3	7	5	17	14
33	42	39	21	20	28	19	23	20	24	23
34	41	38	20	19	27	18	22	21	23	22
35	41	1	20	19	27	18	21	21	23	22
36	40	37	19	21	27	20	25	25	27	26
37	40	37	19	18	19	17	21	22	22	21
38	40	39	19	18	27	17	21	22	22	21
39	40	3	19	18	27	17	21	22	22	21
40	1	6	4	6	3	3	5	4	5	1
41	4	3	1	11	11	1	1	12	1	1
42	1	1	5	3	2	1	1	1	3	1
43	1	1	3	3	2	1	1	1	3	1
44	1	5	4	4	1	1	1	1	4	1
45	14	5	4	4	1	1	1	1	4	1
46	1	4	1	1	1	1	3	1	1	3

Table S1. (continued).

CST	Allele number codes for each locus ^a									
	asd	edD	gap	glnD	gnd	nuoE1	ordL2	recA	sucA	zwf
47	1	1	1	7	1	1	1	1	1	1
48	1	1	1	1	1	1	1	1	1	1
49	1	19	1	1	1	1	1	1	1	1
50	1	3	1	1	1	1	1	1	1	1
51	53	46	26	24	31	23	27	27	29	30
52	2	2	2	3	13	2	8	2	2	2
53	2	2	2	2	12	2	2	2	2	2
54	2	2	2	2	2	2	2	2	2	2
55	10	9	2	2	12	2	2	2	2	2
56	15	15	2	4	14	6	2	8	2	2
57	9	2	2	2	13	5	2	2	2	2
58	15	9	2	2	13	4	2	6	2	10
59	3	9	2	7	13	4	2	2	2	2
60	15	9	2	3	13	4	2	2	2	2
61	54	47	27	25	32	24	28	28	30	31

^a*asd*, aspartate-semialdehyde dehydrogenase; *edd*, phosphogluconate dehydratase; *gap*, glyceraldehyde 3-phosphate dehydrogenase; *glnD*, protein-P_{II} uridylyltransferase; *gnd*, 6-phosphogluconate dehydrogenase; *nuoE1*, NADH dehydrogenase I chain E protein; *ordL2*, putative oxidoreductase protein; *recA*, DNA strand exchange and recombination protein; *sucA*, 2-oxoglutarate dehydrogenase E1; *zwf*, glucose-6-phosphate 1-dehydrogenase.

TABLE S2. Symbiotic effectiveness of nine *Trigonella* strains on six-week-old seedlings of *Trigonella suavissima*, *T. anguina*, and *Medicago sativa*.

Strain	Seedling shoot dry weight ^a		
	(host species)		
	<i>Trigonella suavissima</i>	<i>Trigonella anguina</i>	<i>Medicago sativa</i>
	(mg/plant)		
CC2283c	8.5 ± 0.8	6.3 ± 1.2	3.2 ± 0.6
CC2155b	8.1 ± 1.8	4.5 ± 0.9	3.9 ± 0.9
CC5037	7.5 ± 0.7	5.7 ± 1.3	4.7 ± 0.9
CC2017	7.1 ± 1.6	6.9 ± 1.3	8.9 ± 1.3
USDA6670	6.1 ± 1.7	5.9 ± 1.4	8.8 ± 1.1
CC5033	6.1 ± 0.4	6.7 ± 1.7	4.7 ± 0.7
CC2325	5.9 ± 0.5	10.1 ± 2.0	5.6 ± 0.4
CC5043	4.5 ± 0.6	2.5 ± 0.6	4.3 ± 0.5
CC2157	3.0 ± 0.8	3.7 ± 1.1	4.7 ± 1.1
uninoculated	2.2 ± 0.3	3.9 ± 1.4	3.6 ± 0.7
+ N control	11.3 ± 2.4	12.8 ± 2.1	14.1 ± 2.1

^aAverage of five replicate seedlings ± SE. A comparison of shoot dry weights between strains and among host species

was conducted using a two-way ANOVA. The analysis revealed no significant differences between host species, and significant differences (by Tukey's HSD) between strains $F(8,108) = 4.32$ $p < 0.0001$.

TABLE S3. GenBank accession numbers for sequences included in the MLST analyses.

<u>Locus and allele</u>	<u>Accession number</u>
asd_allele1	DQ423249
asd_allele2	DQ423250
asd_allele3	DQ423251
asd_allele4	DQ423252
asd_allele6	DQ423254
asd_allele9	DQ423257
asd_allele10	DQ423258
asd_allele14	DQ423262
asd_allele15	DQ423263
asd_allele19	KX896263
asd_allele20	KX896264
asd_allele21	KX896265
asd_allele22	KX896266
asd_allele23	KX896267
asd_allele24	KX896268
asd_allele40	KX896269
asd_allele41	KX896270
asd_allele42	KX896271
asd_allele49	KX896272
asd_allele50	KX896273
asd_allele51	KX896274
asd_allele52	KX896275
asd_allele53	ATYB01000014
asd_allele54	KX896276

Table S3. (continued)

<u>Locus and allele</u>	<u>Accession number</u>
dak_allele1	GQ507067
dak_allele2	GQ507068
dak_allele3	GQ507069
dak_allele5	GQ507071
dak_allele9	GQ507075
dak_allele16	GQ507082
dak_allele19	KX896381
dak_allele20	KX896382
dak_allele21	KX896383
dak_allele22	KX896384
dak_allele23	ATYB01000008
dak_allele24	KX896385
edd_allele1	DQ423265
edd_allele2	DQ423266
edd_allele3	DQ423267
edd_allele4	DQ423268
edd_allele5	DQ423269
edd_allele6	DQ423270
edd_allele7	DQ423271
edd_allele9	DQ423273
edd_allele15	DQ423279
edd_allele19	EF428946
edd_allele25	KX896277
edd_allele26	KX896278

Table S3. (continued)

<u>Locus and allele</u>	<u>Accession number</u>
edd_allele28	KX896279
edd_allele29	KX896280
edd_allele30	KX896281
edd_allele37	KX896282
edd_allele38	KX896283
edd_allele39	KX896284
edd_allele40	KX896285
edd_allele41	KX896286
edd_allele42	KX896287
edd_allele43	KX896288
edd_allele45	KX896289
edd_allele46	ATYB01000014
edd_allele47	KX896290
gabT_allele1	GQ507162
gabT_allele2	GQ507163
gabT_allele4	GQ507165
gabT_allele6	GQ507167
gabT_allele9	GQ507170
gabT_allele10	GQ507171
gabT_allele15	GQ507176
gabT_allele20	GQ507181
gabT_allele25	KX896386
gabT_allele26	KX896387
gabT_allele27	ATYB01000008

Table S3. (continued)

<u>Locus and allele</u>	<u>Accession number</u>
gabT_allele28	KX896388
gap_allele1	DQ423283
gap_allele2	DQ423284
gap_allele3	DQ423285
gap_allele4	DQ423286
gap_allele5	DQ423287
gap_allele7	DQ423289
gap_allele11	KX896291
gap_allele12	KX896292
gap_allele13	KX896293
gap_allele14	KX896294
gap_allele15	KX896295
gap_allele16	KX896296
gap_allele17	KX896297
gap_allele19	KX896298
gap_allele20	KX896299
gap_allele21	KX896300
gap_allele22	KX896301
gap_allele23	KX896302
gap_allele26	AM295420
gap_allele27	KX896303
glnD_allele1	DQ423292

Table S3. (continued)

<u>Locus and allele</u>	<u>Accession number</u>
glnD_allele2	DQ423293
glnD_allele3	DQ423294
glnD_allele4	DQ423295
glnD_allele6	DQ423297
glnD_allele7	DQ423298
glnD_allele10	DQ423301
glnD_allele11	EF428952
glnD_allele12	KX896304
glnD_allele13	KX896305
glnD_allele14	KX896306
glnD_allele15	KX896307
glnD_allele17	KX896308
glnD_allele18	KX896309
glnD_allele19	KX896310
glnD_allele20	KX896311
glnD_allele21	KX896312
glnD_allele22	KX896313
glnD_allele23	KX896314
glnD_allele24	ATYB01000014
glnD_allele25	KX896315
gnd_allele1	DQ423302
gnd_allele2	DQ423303
gnd_allele3	DQ423304
gnd_allele8	DQ423309

Table S3. (continued)

<u>Locus and allele</u>	<u>Accession number</u>
gnd_allele11	JN685647
gnd_allele12	GQ338840
gnd_allele13	GQ338841
gnd_allele14	GQ338842
gnd_allele18	KX896316
gnd_allele19	KX896317
gnd_allele20	KX896318
gnd_allele21	KX896319
gnd_allele22	KX896320
gnd_allele23	KX896321
gnd_allele27	KX896322
gnd_allele28	KX896323
gnd_allele29	KX896324
gnd_allele30	KX896325
gnd_allele31	ATYB01000014
gnd_allele32	KX896326
idhA_allele2	GQ507187
idhA_allele4	GQ507189
idhA_allele10	GQ507195
idhA_allele11	GQ507196
idhA_allele24	GQ507209
idhA_allele25	GQ507210
idhA_allele28	KX896389
idhA_allele29	KX896390

Table S3. (continued)

<u>Locus and allele</u>	<u>Accession number</u>
idhA_allele30	KX896391
idhA_allele31	ATYB01000008
idhA_allele32	KX896392
nifD_allele1	GQ507237
nifD_allele2	GQ507238
nifD_allele3	GQ507239
nifD_allele6	GQ507242
nifD_allele7	GQ507243
nifD_allele9	GQ507245
nifD_allele12	GQ507248
nifD_allele15	GQ507251
nifD_allele17	GQ507253
nifD_allele22	GQ507258
nifD_allele51	KX896393
nifD_allele52	ATYB01000010
nifD_allele53	KX896394
nodC_allele2	EF428921
nodC_allele3	EF428922
nodC_allele4	GQ507336
nodC_allele7	GQ507339
nodC_allele11	GQ507343
nodC_allele15	GQ507347
nodC_allele17	GQ507349

Table S3. (continued)

<u>Locus and allele</u>	<u>Accession number</u>
nodC_allele22	GQ507354
nodC_allele32	GQ507364
nodC_allele52	ATYB01000010
nodC_allele53	KX896395
nuoE_allele1	DQ423310
nuoE_allele2	DQ423311
nuoE_allele3	DQ423312
nuoE_allele4	DQ423313
nuoE_allele5	DQ423314
nuoE_allele6	DQ423315
nuoE_allele14	KX896327
nuoE_allele17	KX896328
nuoE_allele18	KX896329
nuoE_allele19	KX896330
nuoE_allele20	KX896331
nuoE_allele21	KX896332
nuoE_allele23	ATYB01000014
nuoE_allele24	KX896333
ordL2_allele1	DQ423321
ordL2_allele2	DQ423322
ordL2_allele3	DQ423323
ordL2_allele5	DQ423325
ordL2_allele7	DQ423327

Table S3. (continued)

<u>Locus and allele</u>	<u>Accession number</u>
ordL2_allele8	DQ423328
ordL2_allele12	KX896334
ordL2_allele13	KX896335
ordL2_allele17	KX896336
ordL2_allele18	KX896337
ordL2_allele21	KX896338
ordL2_allele22	KX896339
ordL2_allele23	KX896340
ordL2_allele24	KX896341
ordL2_allele25	KX896342
ordL2_allele26	KX896343
ordL2_allele27	ATYB01000014
ordL2_allele28	KX896344
recA_allele1	DQ423330
recA_allele1	DQ423331
recA_allele1	DQ423333
recA_allele1	DQ423334
recA_allele1	DQ423335
recA_allele1	DQ423337
recA_allele12	EF428959
recA_allele15	KX896345
recA_allele20	KX896346
recA_allele21	KX896347
recA_allele22	KX896348

Table S3. (continued)

<u>Locus and allele</u>	<u>Accession number</u>
recA_allele24	KX896349
recA_allele25	KX896350
recA_allele26	KX896351
recA_allele27	AM182130
recA_allele28	AM946576
SMa0198_allele2	GQ507303
SMa0198_allele3	GQ507304
SMa0198_allele4	GQ507305
SMa0198_allele6	GQ507307
SMa0198_allele13	GQ507314
SMa0198_allele14	GQ507315
SMa0198_allele18	GQ507319
SMa0198_allele20	GQ507321
SMa0198_allele22	GQ507323
SMa0198_allele31	GQ507332
SMa0198_allele32	GQ507333
SMa0198_allele33	GQ507334
SMa0198_allele34	KX896396
SMa0198_allele35	ATYB01000009
SMa0198_allele36	KX896397
sucA_allele1	DQ423340
sucA_allele2	DQ423341

Table S3. (continued)

<u>Locus and allele</u>	<u>Accession number</u>
sucA_allele3	DQ423342
sucA_allele4	DQ423343
sucA_allele5	DQ423344
sucA_allele7	DQ423346
sucA_allele14	KX896352
sucA_allele15	KX896353
sucA_allele16	KX896354
sucA_allele17	KX896355
sucA_allele19	KX896356
sucA_allele22	KX896357
sucA_allele23	KX896358
sucA_allele24	KX896359
sucA_allele25	KX896360
sucA_allele26	KX896361
sucA_allele27	KX896362
sucA_allele28	KX896363
sucA_allele29	ATYB01000014
sucA_allele30	KX896364
zwf_allele1	DQ423352
zwf_allele2	DQ423353
zwf_allele3	DQ423354
zwf_allele9	DQ423360
zwf_allele10	DQ423361
zwf_allele12	KX896365

Table S3. (continued)

<u>Locus and allele</u>	<u>Accession number</u>
zwf_allele13	KX896366
zwf_allele14	KX896367
zwf_allele15	KX896368
zwf_allele16	KX896369
zwf_allele18	KX896370
zwf_allele21	KX896371
zwf_allele22	KX896372
zwf_allele23	KX896373
zwf_allele24	KX896374
zwf_allele25	KX896375
zwf_allele26	KX896376
zwf_allele27	KX896377
zwf_allele28	KX896378
zwf_allele29	X896379
zwf_allele30	ATYB01000014
zwf_allele31	KX896380