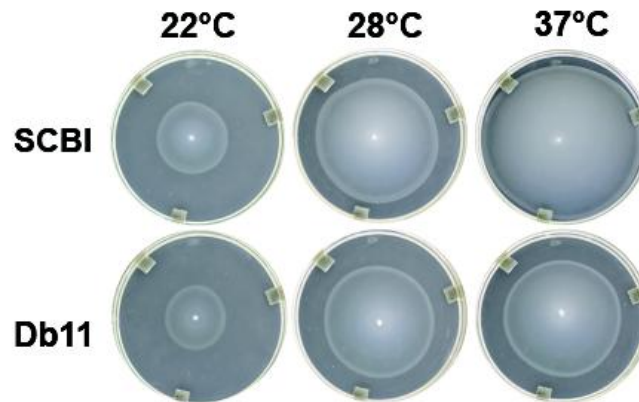


Supplementary Material:

Temperature influences the physiology and virulence of the insect pathogen *Serratia* sp. SCBI.

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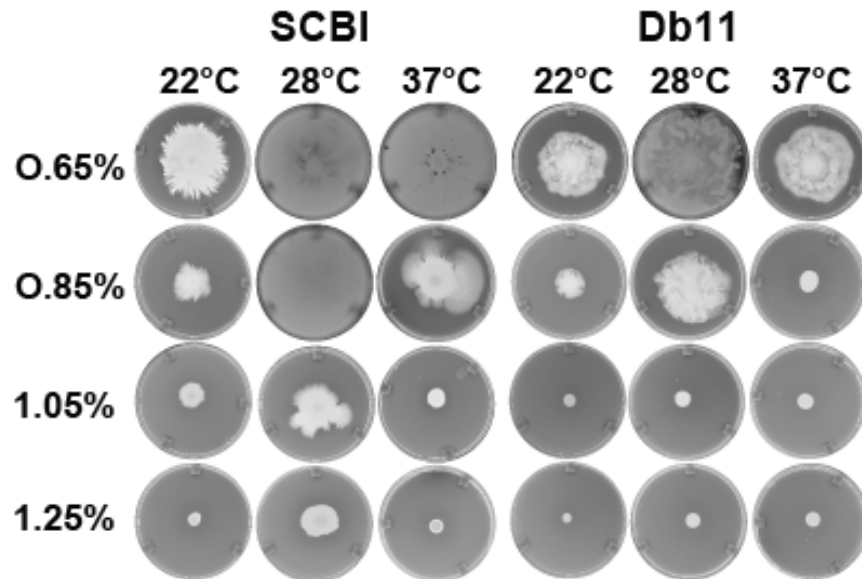
Supplementary Figure 1: Swim ring formation of *Serratia* sp. SCBI and *S. marcescens* Db11.



Legend to Supplementary Figure 1: Temperature influences swimming behavior as measured by the swim ring migration assay for *Serratia* sp. SCBI (SCBI) and *S. marcescens* Db11 (Db11).

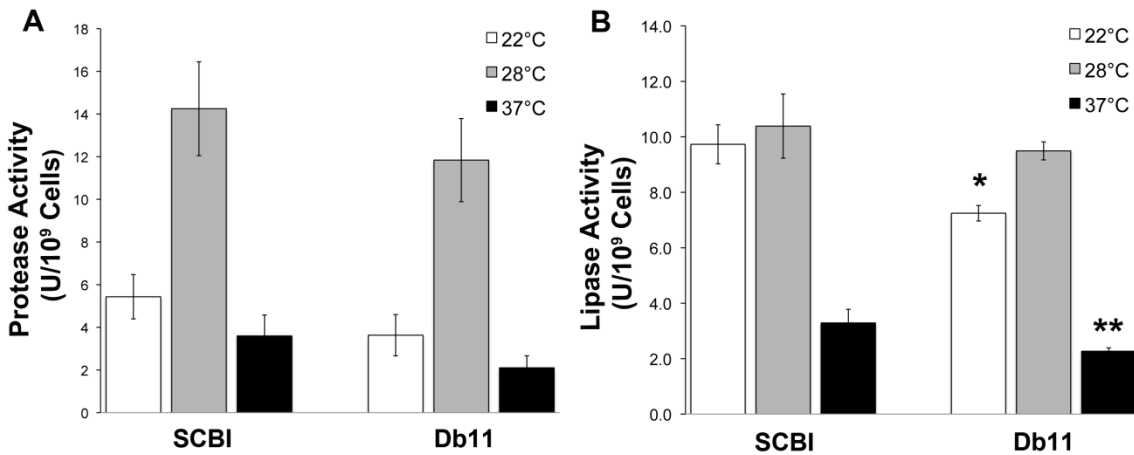
Photographs are of the swim rings at 10 h at 22, 28 and 37°C.

Supplementary Figure 2: Swarming motility of *Serratia* sp. SCBI and *S. marcescens* Db11.



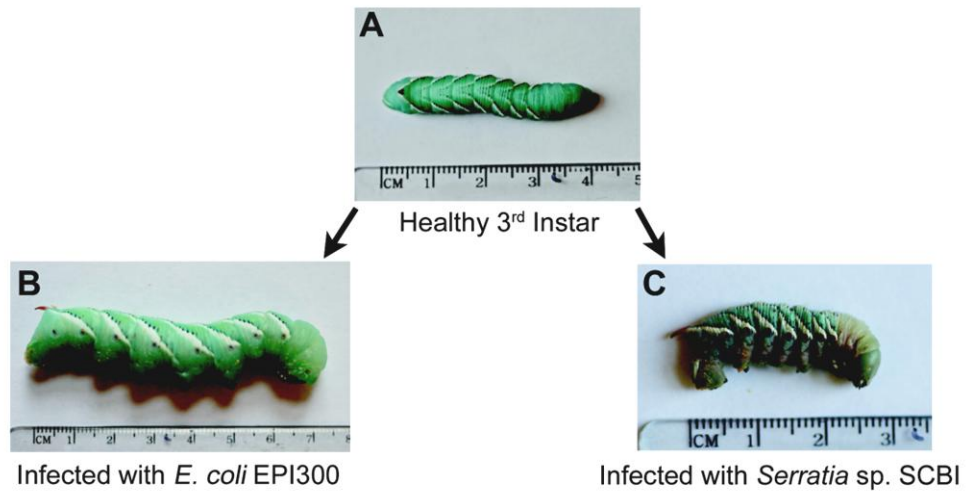
Legend to Supplementary Figure 2: Both temperature and agar concentration influenced swarm ring formation. Overnight cultures of *Serratia* sp. SCBI (SCBI) and *S. marcescens* Db11 (Db11) were spot inoculated onto the surface of Protease Peptone 3 swarming medium containing varying agar concentrations (w/v) and incubated for 48 h at the test temperatures. Photographs are of swarm migration plates incubated at the test temperature after 48 h.

Supplementary Figure 3: Protease and lipase activity of *Serratia* sp. SCBI and *S. marcescens* Db11.



Legend to Supplementary Figure 3: Temperature influenced exoenzyme activity. Cultures of *Serratia* sp. SCBI and *S. marcescens* Db11 were grown at the test temperature and the supernatant of the bacterial culture was assayed for protease and lipase activity using a quantitative liquid assay. (A) Protease Activity. (B) Lipase activity. Bar types represent values for each temperature: 22°C (open bars), 28°C (grey bars) and 37°C (filled bars). Values are the average of 3 measurements from 2 independent experiments (3 measurements each), with the standard deviations indicated by error bars. **, $P < 0.01$ and *, $P < 0.001$ denote significant differences compared to *Serratia* sp. SCBI at the same temperature.

Supplementary Figure 4: Effects of *Serratia* sp. SCBI and *E. coli* EPI300 infection on *M. sexta*.



Legend to Supplementary Figure 4: *Serratia* sp. SCBI arrested *M. sexta* development. Photographs of (A) a healthy 3rd instar larva, (B) a 5th instar larva inoculated with $\geq 10^5$ CFU *E. coli* EPI300 after 7 days incubation and (C) a larva inoculated with $\geq 4.0 \times 10^4$ *Serratia* sp. SCBI after 7 days incubation at 22°.

Supplementary Table 1. Effect of temperature on secreted activities of *Serratia* sp.

Activity	<i>Serratia</i> sp. SCBI			<i>S. marcescens</i> Db11		
	22°C	28°C	37°C	22°C	28°C	37°C
DNase ^a	4.3 ±0.5	5.0 ±0.7	5.4 ±0.6	3.8 ±0.4	5.3 ±0.9	5.0 ±0.6
Siderophore ^b	5.8 ±0.5	5.5 ±0	3.5 ±0.4	4.1 ±0.4**	5.0 ±0.4	4.3 ±0.3
Gelatinase ^b	6.0 ±0.5	7.6 ±0.9	9.2 ±1.9	4.8 ±0.7	7.5 ±1.2	8.8 ±1.6
Chitinase ^c	6.4 ±0.8	8.8 ±0.4	8.5 ±0.9	2.1 ±0.4*	6.3 ±0.7*	8.2 ±0.5

Indicator plates were spot inoculated with bacteria that had been grown overnight in LB broth. The plates were incubated for 24 h, 48 h, or 7 days at the test temperature. The radius of the clearing zones were measured. These values were expressed as mm and values are the average of 4 measurements, with standard deviations indicated by \pm . **, $P < 0.01$ and *, $P < 0.001$ denote significant differences compared to *Serratia* sp. SCBI at the same temperature.

^a The clearing zone was measured at 24 h.

^b The clearing zone was measured at 48 h.

^c The clearing zone was measured at 7 days.