

Table S4: Categories of virulence factors considered in this study.

Category	Definition	Examples
<i>Primary – secreted and directly act against host cells/tissues</i>		
Toxin	Proteins that are secreted and directly target host cells/tissues, giving rise to pathogenesis.	Insecticidal toxin complex, vegetative insecticidal protein or Cry toxin.
Effector	Proteins that are translocated directly into host cells by type 3 or 6 secretion systems.	<i>Yersinia</i> spp. Yop or <i>Salmonella</i> spp. Spa type 3 secretion system and hemolysin co-regulated protein (Hcp) or polymorphic rearrangement hot-spot (Rhs) toxins.
<i>Secondary – all other non-primary factors contributing to pathogenesis (i.e., gene abrogation results in attenuated virulence).</i>		
Adherence	External structures used to attach to host cells or tissues.	Fimbriae or filamentous hemagglutinins.
Defense response	Factors used to detoxify against antimicrobial compounds or host-induced stress.	Superoxide dismutase, efflux pumps, iron-sulfur cluster.
Horizontal gene transfer	Factors that promote lateral gene acquisitions or mobilization.	Conjugative pili or integrases.
Iron acquisition	Systems used by pathogenic bacteria to acquire iron in the host environment.	Siderophores, hemolysins and iron-specific transporters.
Metabolic adaptation	Enzymes and transporters involved in bioconversion of host-derived nutrients.	Amino acid transporters or chitinases.
Mobility	Factors related to motility.	Flagella or chemotaxis.
Outer membrane	Factors related to modification of outer membrane/capsule often used to evade host-immune response.	Lipopolysaccharide or outer membrane proteins.
Regulation	Regulatory factors controlling pathogenic response to host.	Two-component sensors, quorum sensing or diguanylate cyclase.
Secretion system	Multi-component systems used for translocation and secretion of toxins and effectors by bacteria.	Type 2, 3, and 6 secretion systems.
Unclassified	Factors that could not be classified specific categories listed above.	Non-ribosomal peptide synthetase or tellurium resistance genes.