**Table S1: Supplementary information on the 19 most abundant genera in the study.** Presence in arthropods is from Minard *et al.* unless otherwise noted. Non-insect environment and presence in arthropods is not comprehensive.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Family | Genera | Possible species (nr BLAST) | Non-insect Environment | Type | Seen in arthropods?1 |
|  | *Acinetobacter* | *soli,* c*alcoaceticus*, or *baumannii (100%)* | soil 2; nosocomial3; Plants/nectar4  | gram-negative aerobic | *Aedes, Anopheles, Culex,Mansonia, Psorophora* |
| *Alcaligenaceae* |  | *faecalis (95%)* | feces, water, and soil5 | gram-negative aerobic | *An. stephensi* |
|  | *Anaplasma* | *ovis (100%)* | obligate intracellular blood pathogen -- ruminants6 | gram-negative aerobic | *An. gambiae*7*, Ticks*6 |
|  | *Arthrobacter* | *agilis (99%)* | Soil, water, human skin8 | gram-positive aerobic | *Aedes, Culex* |
|  | *Asaia* | *siamensis, bogorensis,or krungthepensis (100%)* | tropical plants9 | gram-negative aerobic | *Aedes, Anopheles, Mansonia, Culex* |
|  | *Bacillus* | *kyonggiensis (100%)* | ubiquitous, soil10 | gram-positive aerobic | *Aedes, Anopheles, Mansonia, Culex* |
|  | *Chryseobacterium* | *indologenes (99%)* | soil, plants, foodstuffs, water11 | gram-negative anaerobic | *Aedes, Anopheles, Mansonia, Culex* |
|  | *Duganella* | *N/A* | soil and water12 | gram-negative aerobic | *Asobara spp.*wasps13, *Agapeta* moths14 |
|  | *Elizabethkingia* | *meningoseptica (100%)* | ubiquitous, water, soil, nosocomial15 | gram-negative aerobic | *Anopheles, Aedes* |
|  | *Hymenobacter* | *N/A* | soil16, airborne17, water associated with *Anopheles* larvae18 | gram-negative aerobic | *Amblyomma* ticks19 |
|  | *Janthinobacterium* | *lividum (99%)* | soil20 | gram-negative aerobic | *Aedes* |
|  | *Klebsiella* | *pneumoniae* or *variicola (100%)* | soil, mouth, skin, intestines, plants21 | gram-negative anaerobic | *Aedes, Anopheles, Culex* |
|  | *Propionibacterium* | *acnes (100%)* | skin22 | gram-positive anaerobic | *Aedes, Anopheles, Mansonia* |
|  | *Pseudomonas* | *5+ species (100%)* | soil, water23 | gram-negative aerobic | *Aedes, Anopheles, Culex, Mansonia, Psorophora* |
|  | *Ralstonia* | *insidiosa* or *picketii (100%)* | soil, water24 | gram-negative aerobic | *Aedes, Anopheles,* Habitat |
|  | *Sphingorhabdus* | *uncultured (100%)* | soil | gram-negative aerobic | N/A |
| *Spirochaetaceae* |  | *Spironema culicis (96%)* | insect symbiont | gram-negative aerobic | *Culex, Simuliidae* black flies25,26 |
|  | *Staphylococcus* | *uncultured (100%)* | ubiquitous | gram-positive facultative anaerobic | *Aedes, Anopheles, Culex, Mansonia* |
|  | *Tatumella* | *uncultured* or *g\_Rosenbergiella (99%)* | plant/nectar27 | gram-negative anaerobic | N/A |

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