

Additional file 1

Additional descriptive data tables

Mosquito data

The data capture 200 total trap-nights and resulted in 40 BG-CDC comparisons, 40 BG-GAT comparisons, 40 BG-net comparisons, 50 CDC-GAT comparisons, and 50 CDC-net comparisons. Below, we provide summary statistics for the mosquito data aggregated across 3-4 sampling nights at each site (Table S1) and aggregated across sampling nights for each species (Table S3). Sites vary in trapping effort due to rainfall in Satara and Punda Maria as well as animal interference. This aggregated data is displayed for summary purposes, as analyses of mosquito abundance compare the number of mosquitoes collected per night between functioning traps.

Weather data

Regions of the park were characterized by distinct weather patterns, as temperature was significantly different between regions (ANOVA: temperature, $F_{(3, 10)} = 4.88$, $P < 0.024$; wind speed, $F_{(3, 10)} = 0.41$, $P = 0.752$; relative humidity, $F_{(3, 10)} = 1.97$, $P = 0.183$).

Table S1. The number of females collected by trap and site. The mosquito column (mosq) indicates the number of females collected; the traps column of trapping nights represented.

| Trap | BG | | CDC | | GAT | | net | | Notes |
|----------------------|------|------------------|------|----------------|------|-------|------|----------------|--|
| | mosq | traps | mosq | traps | mosq | traps | mosq | traps | |
| Malelane Total | 14 | 14 | 150 | 16 | 4 | 15 | 159 | 15 | (total - across 4 nights) |
| Malelane 1 | 5 | 4 | 79 | 4 | 0 | 4 | 19 | 4 | |
| Malelane 2 | 4 | 3 | 38 | 4 | 0 | 4 | 72 | 4 | |
| Malelane 3 | 1 | 3 | 15 | 4 | 0 | 3 | 20 | 4 | |
| Malelane 4 | 4 | 4 | 18 | 4 | 4 | 4 | 48 | 3 ^a | a. Net not set-up, elephants |
| Satara Total | 12 | 9 | 175 | 11 | 1 | 12 | 80 | 11 | (total - across 3 nights) |
| Satara 1 | 9 | 3 | 26 | 3 | 0 | 3 | 24 | 3 | |
| Satara 2 | 1 | 2 | 15 | 3 | 1 | 3 | 23 | 3 | |
| Satara 3 | 0 | 1 ^b | 128 | 3 | 0 | 3 | 23 | 2 | b. Two BG traps destroyed, hyena |
| Satara 4 | 0 | 3 | 6 | 2 ^c | 0 | 3 | 10 | 3 | c. CDC pulled down, baboons |
| Shingwedzi Total | 3 | 10 | 51 | 15 | 0 | 15 | 146 | 15 | (total - across 4 nights) |
| Shingwedzi 1 | 2 | 3 | 0 | 3 | 0 | 3 | 21 | 3 | |
| Shingwedzi 2 | 0 | 2 ^d | 11 | 4 | 0 | 4 | 9 | 4 | d. BG trap not deployed, previous damage |
| Shingwedzi 3 | 1 | 3 | 17 | 4 | 0 | 4 | 93 | 4 | |
| Shingwedzi 4 | 0 | 2 ^{e,d} | 23 | 4 | 0 | 4 | 23 | 4 | d. BG trap not deployed, previous damage b. One BG trap destroyed, hyena |
| Punda Maria Total | 1 | 8 | 18 | 11 | 0 | 12 | 62 | 11 | (total - across 3 nights) |
| Punda Maria 1 | 1 | 3 | 1 | 3 | 0 | 3 | 12 | 3 | |
| Punda Maria 2 | 0 | 2 ^d | 0 | 2 | 0 | 3 | 31 | 3 | d. BG trap not deployed, previous damage |
| Punda Maria 3 | 0 | 2 ^d | 7 | 3 | 0 | 3 | 11 | 3 | d. BG trap not deployed, previous damage |
| Punda Maria 4 | 0 | 1 ^d | 10 | 3 | 0 | 3 | 8 | 2 ^e | d. BG trap not deployed, previous damage e. tent trap fell over, unknown animal |
| Overall Total | 30 | 41 | 349 | 53 | 5 | 54 | 447 | 52 | |

Table S2. The number of females collected of each species by region of the park.

| Species | Malelane | Skukuza | Satara | Shingwedzi | Punda Maria | Total |
|---|----------|---------|--------|------------|-------------|-------|
| <i>Aedes aegypti</i> | 25 | 0 | 4 | 0 | 0 | 29 |
| <i>Aedes aerarius</i> | 2 | 0 | 0 | 0 | 0 | 2 |
| <i>Aedes dentatus</i> complex | 4 | 0 | 1 | 0 | 1 | 6 |
| <i>Aedes mcintoshi</i> | 1 | 0 | 11 | 0 | 0 | 12 |
| <i>Aedes metallicus</i> | 0 | 0 | 1 | 1 | 0 | 2 |
| <i>Aedes ochraceus</i> | 0 | 0 | 19 | 8 | 1 | 28 |
| <i>Aedes quasiunivittatus</i> | 5 | 0 | 1 | 0 | 0 | 6 |
| <i>Aedes sudanensis</i> | 3 | 1 | 15 | 2 | 0 | 21 |
| <i>Aedes unidentatus</i> | 3 | 0 | 0 | 0 | 0 | 3 |
| <i>Aedes vexans</i> complex | 18 | 1 | 120 | 9 | 0 | 148 |
| <i>Aedes vittatus</i> | 3 | 0 | 0 | 1 | 0 | 4 |
| <i>Anopheles coustani</i> | 9 | 4 | 5 | 0 | 1 | 19 |
| <i>Anopheles funestus</i> | 15 | 0 | 2 | 0 | 1 | 18 |
| <i>Anopheles gambiae</i> s.l. | 23 | 0 | 12 | 32 | 9 | 76 |
| <i>Anopheles maculipalpis</i> | 0 | 0 | 0 | 3 | 0 | 3 |
| <i>Anopheles pretoriensis</i> | 28 | 1 | 4 | 24 | 3 | 60 |
| <i>Anopheles rufipes</i> | 8 | 0 | 1 | 0 | 2 | 11 |
| <i>Anopheles squamosus</i> | 8 | 0 | 5 | 1 | 1 | 15 |
| <i>Anopheles ziemanni</i> | 0 | 0 | 0 | 1 | 0 | 1 |
| <i>Culex antennatus</i> | 0 | 0 | 0 | 1 | 0 | 1 |
| <i>Culex bitaenorrhynchus</i> | 0 | 0 | 0 | 1 | 0 | 1 |
| <i>Culex duttoni</i> | 0 | 0 | 4 | 3 | 1 | 8 |
| <i>Culex ethiopicus</i> | 17 | 5 | 2 | 11 | 1 | 36 |
| <i>Culex nebulosus</i> | 0 | 0 | 0 | 1 | 0 | 1 |
| <i>Culex pipiens</i> complex | 55 | 0 | 45 | 5 | 0 | 105 |
| <i>Culex poicilipes</i> | 3 | 11 | 1 | 4 | 2 | 21 |
| <i>Culex simpsoni</i> | 4 | 0 | 0 | 2 | 0 | 6 |
| <i>Culex theileri</i> | 2 | 0 | 1 | 4 | 77 | 84 |
| <i>Culex trifoliatus</i> | 33 | 2 | 0 | 0 | 0 | 35 |
| <i>Culex univittatus</i> complex | 50 | 10 | 22 | 79 | 9 | 170 |
| <i>Lutzia tigripes</i> | 0 | 0 | 0 | 0 | 1 | 1 |
| <i>Mansonia africana</i> | 1 | 3 | 0 | 2 | 0 | 6 |
| <i>Mansonia uniformis</i> | 0 | 0 | 2 | 3 | 1 | 6 |
| <i>Uranotaenia balfouri</i> | 0 | 0 | 0 | 1 | 0 | 1 |
| 3 unidentified <i>Anopheles</i> species | 2/1/3 | 0/0/0 | 0/0/0 | 0/0/0 | 0/0/0 | 2/1/3 |
| Unidentified <i>Culex</i> species | 1 | 0 | 0 | 0 | 0 | 1 |
| Unidentified <i>Mimomyia</i> species | 0 | 0 | 1 | 0 | 0 | 1 |
| Unidentified Genus | 0 | 0 | 0 | 1 | 0 | 1 |

Table S3. Summary of weather conditions sampled within each region of the park. Numbers are displayed as median and range in parentheses.

| | temperature | wind speed | relative humidity |
|-------------|------------------|---------------|-------------------|
| Malelane | 22.9 (21.2-25.1) | 0.33 (0-0.75) | 83.8 (60.7-93.7) |
| Satara | 22.0 (21.7-25.6) | 0.23 (0-0.68) | 73.3 (73.3-84.0) |
| Shingwedzi | 18.3 (15.1-21.7) | 0.10 (0-0.38) | 90.1 (86.4-91.8) |
| Punda Maria | 16.6 (16.5-20.4) | 0.00 (0-0.55) | 71.0 (62.6-84.7) |