

**Table S2.** Results of the AIC Model Selection approach with mosquito (adult females) individual abundance in function of vegetation gradient, Parque Estadual da Ilha do Cardoso, 2009-2010.

| Species                                                                                        | Models                       | df <sup>a</sup> | AICc                     | AICc Weight |
|------------------------------------------------------------------------------------------------|------------------------------|-----------------|--------------------------|-------------|
| <i>An. bellator</i> individual abundance in function of vegetation gradient (Fig. 4A, 4C)      | Model I (flat)               | 1               | 75.28                    | 0.00        |
|                                                                                                | Model II monotone)           | 2               | <b>64.53<sup>b</sup></b> | <b>0.54</b> |
|                                                                                                | Model III (plateau)          | 3               | 67.01                    | 0.16        |
|                                                                                                | Model IV (symmetric)         | 3               | 67.01                    | 0.16        |
|                                                                                                | Model V (skewed)             | 4               | 69.69                    | 0.04        |
|                                                                                                | Model VI (bimodal symmetric) | 4               | 68.25                    | 0.08        |
|                                                                                                | Model VII (bimodal skewed)   | 5               | 71.14                    | 0.02        |
| <i>Cx. imitator</i> individual abundance in function of vegetation gradient (Fig. 4A)          | Model I (flat)               | 1               | 561.51                   | 0.00        |
|                                                                                                | Model II monotone)           | 2               | <b>402.54</b>            | <b>0.57</b> |
|                                                                                                | Model III (plateau)          | 3               | 405.02                   | 0.17        |
|                                                                                                | Model IV (symmetric)         | 3               | 405.02                   | 0.17        |
|                                                                                                | Model V (skewed)             | 4               | 407.69                   | 0.04        |
|                                                                                                | Model VI (bimodal symmetric) | 4               | 407.69                   | 0.04        |
|                                                                                                | Model VII (bimodal skewed)   | 5               | 410.59                   | 0.01        |
| <i>Wy. muhelensi</i> individual abundance in function of vegetation gradient (Fig. 4B)         | Model I (flat)               | 1               | 3196                     | 0.00        |
|                                                                                                | Model II (monotone)          | 2               | 3140                     | 0.00        |
|                                                                                                | Model III (plateau)          | 3               | 2937                     | 0.00        |
|                                                                                                | Model IV (symmetric)         | 3               | 2097                     | 0.00        |
|                                                                                                | Model V (skewed)             | 4               | <b>1856</b>              | <b>1.0</b>  |
|                                                                                                | Model VI (bimodal symmetric) | 4               | 2100                     | 0.00        |
|                                                                                                | Model VII (bimodal skewed)   | 5               | 2001                     | 0.00        |
| <i>Wy. quasilongirostris</i> individual abundance in function of vegetation gradient (Fig. 4B) | Model I (flat)               | 1               | 4529.34                  | 0.00        |
|                                                                                                | Model II (monotone)          | 2               | 4387.42                  | 0.00        |
|                                                                                                | Model III (plateau)          | 3               | 4078.91                  | 0.00        |
|                                                                                                | Model IV (symmetric)         | 3               | 2652.23                  | 0.09        |
|                                                                                                | Model V (skewed)             | 4               | <b>2647.77</b>           | <b>0.88</b> |
|                                                                                                | Model VI (bimodal symmetric) | 4               | 2654.91                  | 0.02        |
|                                                                                                | Model VII (bimodal skewed)   | 5               | 2657.81                  | 0.01        |
| <i>An. cruzii</i> individual abundance in function of vegetation gradient (Fig. 4C)            | Model I (flat)               | 1               | 3022                     | 0.00        |
|                                                                                                | Model II (monotone)          | 2               | <b>2016</b>              | <b>0.55</b> |
|                                                                                                | Model III (plateau)          | 3               | 2018                     | 0.20        |
|                                                                                                | Model IV (symmetric)         | 3               | 2018                     | 0.20        |
|                                                                                                | Model V (skewed)             | 4               | 2021                     | 0.05        |
|                                                                                                | Model VI (bimodal symmetric) | 4               | -                        | -           |
|                                                                                                | Model VII (bimodal skewed)   | 5               | -                        | -           |
| <i>Ae. scapularis</i> individual abundance in function of vegetation gradient (Fig. 4D)        | Model I (flat)               | 1               | 68584.01                 | 0.0         |
|                                                                                                | Model II (monotone)          | 2               | 55052.87                 | 0.0         |
|                                                                                                | Model III (plateau)          | 3               | 50665.98                 | 0.0         |
|                                                                                                | Model IV (symmetric)         | 3               | 37526.66                 | 0.17        |
|                                                                                                | Model V (skewed)             | 4               | <b>37523.98</b>          | <b>0.63</b> |
|                                                                                                | Model VI (bimodal symmetric) | 4               | 37526.65                 | 0.17        |
|                                                                                                | Model VII (bimodal skewed)   | 5               | 37529.56                 | 0.03        |
| <i>Ae. serratus</i> individual abundance in function of vegetation gradient (Fig. 4D)          | Model I (flat)               | 1               | 2152.84                  | 0.0         |
|                                                                                                | Model II (monotone)          | 2               | 1894.79                  | 0.0         |
|                                                                                                | Model III (plateau)          | 3               | 1699.88                  | 0.0         |
|                                                                                                | Model IV (symmetric)         | 3               | 1760.84                  | 0.0         |
|                                                                                                | Model V (skewed)             | 4               | 1692.37                  | 0.0         |
|                                                                                                | Model VI (bimodal symmetric) | 4               | <b>1654.32</b>           | <b>0.73</b> |
|                                                                                                | Model VII (bimodal skewed)   | 5               | 1656.93                  | 0.27        |

<sup>a</sup>: The number of parameters in the Model Selection varies, accordingly: flat, one parameter; monotone, two parameters; plateau, three parameters; symmetric, three parameters; skewed, four parameters; bimodal symmetric, four parameters and bimodal skewed, five parameters.

<sup>b</sup>: The results printed in bold represent the most plausible model under the lowest value of Akaike Information Criteria based on the best model’s parsimony and likelihood [34].