**Critical dependence of butterflies on a non-native host plant in the urban tropics**

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Supplementary Material

**Supplementary Table 1** - Source populations for Common Birdwing (BW) and Common Rose (CR) in Singapore as identified by experts, survey effort and BW & CR abundance recorded as part of our study. BW and CR prediction values represent the probability of occurrence in Singapore based on the random forest models.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Site Code** | **Distance to another nearest source population** | **Site description** | **Habitat Type** | **Survey effort (hours)** | **BW abundance** | **CR abundance** | **BW prediction** | **CR prediction** |
| 1 | JBG-EVO | 3.4 km (IST) | Singapore Botanic Gardens (Jacob Ballas Children's Garden & Evolution Garden)  | Urban park | 117 | 24 | 59 | 0.66 | 0.69 |
| 2 | IST | 3.4 km (JBG) |  | Urban park | 97 | 11 | 15 |  |  |
| Istana and Penang Road Open Space | 0.65 | 0.66 |
| 3 | UBH | 12km (SCC) | Ubin Butterfly Hill | Urban park | 58 | 79 | 22 | 0.60 | 0.42 |
| 4 | BTNR - DFNP  | 4.9 km (Zoo) | Bukit Timah Nature Reserve & Dairy Farm Nature Park | Forest | 56 | 26 | 0 | 0.38 | 0.15 |
| 5 | JEG | 5km (TFM) | Jurong Eco Garden | Urban park | 42 | 14 | 3 | 0.61 | 0.65 |
| 6 | AHG-HOR | 3.5 km (IMB) | Alexandra Hospital Butterfly Garden & Hort Park  | Urban park | 37 | 10 | 9 | 0.66 | 0.69 |
| 7 | IMB | 3.5 km (AHG) | Imbiah Garden in Sentosa | Private | 31 | 11 | 1 | 0.65 | 0.69 |
| 8 | CLW | 2.5 km (BTNR) | Clementi Woods & Maju Camp  | Forest | 25 | 12 | 5 | 0.3 | 0.14 |
| 9 | Zoo | 4.9 km (DFNP) | Mandai zoo | Private | 15 | 8 | 4 | 0.64 | 0.65 |
| 10 | WNU | 4.2 km (JBG) | Windsor estate | Private | 157 | 5 | 2 | 0.34 | 0.14 |
| 11 | KTPH | 2.7km (SCC) | Khoo Teck Puat Hospital | Private | 80 | 2 | 15 | 0.37 | 0.20 |
| 12 | SCC | 2.7km (KTP) | Seletar Country Club | Private | 101 | 3 | 6 | 0.37 | 0.21 |
| 13 | VPG | 3.5 km (CLW) | Varsity Park Garden | Private | 46 | 0 | 10 | 0.34 | 0.32 |
| 14 | TFM | 5km (JEG) | Tengah Farm | Private | 30 | 4 | 0 | 0.34 | 0.15 |



**Supplementary Figure 1** - Survey locations for BW and CR butterflies divided by habitat types