

Supplementary Materials

Table S1. Frequencies of individuals belonging to each hymenopteran family in samples from each trap locality.

| Superfamily | Family | Khao Yai N.P. | | | | Sakaerat | | | Doi Phu Kha N.P. | | | | Total |
|---------------------|-------------------|---------------|-----|-----|-----|----------|-----|-----|------------------|-----|-----|----|-------|
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 1 | 2 | 3 | 4 | |
| Ceraphronoidea | Ceraphronidae | 67 | 29 | 49 | 66 | 14 | 24 | 21 | 7 | 13 | 26 | 0 | 316 |
| | Megaspilidae | 0 | 1 | 5 | 10 | 0 | 1 | 1 | 3 | 5 | 17 | 3 | 46 |
| Chalcidoidea | Agaonidae | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 4 |
| | Aphelinidae | 73 | 3 | 59 | 26 | 52 | 43 | 70 | 7 | 31 | 32 | 10 | 406 |
| | Azotidae | 5 | 0 | 5 | 1 | 4 | 1 | 6 | 0 | 0 | 1 | 0 | 23 |
| | Chalcididae | 6 | 0 | 1 | 2 | 7 | 3 | 3 | 0 | 0 | 3 | 0 | 25 |
| | Cleonymidae | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 4 |
| | Diparidae | 0 | 1 | 2 | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 11 |
| | Encyrtidae | 31 | 2 | 24 | 30 | 45 | 42 | 24 | 5 | 13 | 15 | 1 | 232 |
| | Eucharitidae | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 4 |
| | Eulophidae | 110 | 68 | 151 | 168 | 87 | 117 | 151 | 20 | 67 | 93 | 35 | 1067 |
| | Eupelmidae | 4 | 0 | 5 | 7 | 6 | 12 | 19 | 1 | 7 | 9 | 13 | 83 |
| | Eurytomidae | 1 | 0 | 1 | 0 | 5 | 3 | 3 | 0 | 2 | 4 | 2 | 21 |
| | Metapelmaticidae | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| | Mymaridae | 101 | 24 | 85 | 46 | 41 | 79 | 165 | 14 | 81 | 53 | 37 | 726 |
| | Ormyridae | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | Pirenidae | 2 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 2 | 2 | 0 | 10 |
| | Pteromalidae | 50 | 68 | 18 | 52 | 15 | 11 | 8 | 3 | 10 | 20 | 1 | 256 |
| | Signiphoridae | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | Spalangidae | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| | Torymidae | 3 | 0 | 4 | 2 | 23 | 5 | 5 | 1 | 0 | 2 | 0 | 45 |
| | Trichogrammatidae | 60 | 3 | 22 | 5 | 25 | 29 | 38 | 5 | 17 | 8 | 7 | 219 |
| Chrysidoidea | Bethylidae | 56 | 21 | 64 | 71 | 82 | 31 | 74 | 1 | 27 | 41 | 43 | 511 |
| | Chrysididae | 1 | 0 | 1 | 1 | 14 | 9 | 15 | 0 | 0 | 1 | 1 | 43 |
| | Dryinidae | 9 | 1 | 10 | 8 | 24 | 9 | 11 | 0 | 9 | 3 | 12 | 96 |
| | Embolemidae | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| | Sclerogibbidae | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Cynipoidea | Figitidae | 22 | 3 | 15 | 47 | 7 | 19 | 13 | 7 | 33 | 76 | 22 | 264 |
| Diaprioidea | Diapriidae | 112 | 37 | 69 | 292 | 32 | 37 | 43 | 29 | 115 | 97 | 37 | 900 |
| | Ismaridae | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 |
| Evanioidea | Evaniidae | 10 | 9 | 4 | 26 | 85 | 40 | 22 | 2 | 6 | 2 | 7 | 213 |
| | Gasteruptiidae | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
| Ichneumonoidea | Braconidae | 153 | 114 | 112 | 120 | 86 | 109 | 107 | 20 | 140 | 55 | 49 | 1065 |
| | Ichneumonidae | 224 | 171 | 126 | 288 | 84 | 107 | 77 | 43 | 164 | 198 | 70 | 1552 |
| Mymarommatoid ea | Mymarommatidae | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Platygaстроidea | Nixoniidae | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| | Platygastridae | 120 | 54 | 71 | 282 | 75 | 102 | 133 | 21 | 148 | 90 | 50 | 1146 |

| | | | | | | | | | | | | | |
|-----------------|------------------|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|------|
| | Scelionidae | 226 | 106 | 487 | 611 | 468 | 446 | 553 | 88 | 312 | 452 | 268 | 4017 |
| | Sparasionidae | 0 | 0 | 0 | 0 | 1 | 5 | 1 | 0 | 0 | 0 | 0 | 7 |
| Pompiloidea | Mutillidae | 11 | 0 | 2 | 0 | 0 | 2 | 8 | 0 | 0 | 6 | 0 | 29 |
| Proctotrupoidea | Proctotrupidae | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 3 | 0 | 10 |
| Scoloidea | Scoliidae | 0 | 0 | 1 | 0 | 5 | 4 | 16 | 0 | 0 | 1 | 1 | 28 |
| Thynnoidea | Thynnidae | 0 | 0 | 3 | 2 | 11 | 8 | 0 | 0 | 0 | 0 | 0 | 24 |
| Tiphioidea | Tiphiidae | 1 | 1 | 2 | 4 | 7 | 3 | 0 | 0 | 15 | 10 | 10 | 53 |
| Stephanoidea | Stephanidae | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| Vespoidea | Rhopalosomatidae | 1 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 |
| | e | | | | | | | | | | | | |

Table S2. Numbers of unique parasitoid BINs per Malaise trap per family. Individual Malaise traps are designated by the letters; A to K correspond to Khao Yai traps 1-4, Sakaerat traps 1-3 and Doi Phu Kha traps 1-4 respectively.

| Family | Total | A | B | G | F | E | C | D | H | I | J | K |
|-------------------|-------|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|
| Scelionidae | 952 | 138 | 89 | 348 | 269 | 328 | 306 | 436 | 66 | 223 | 303 | 186 |
| Ichneumonidae | 631 | 158 | 106 | 65 | 82 | 64 | 104 | 230 | 39 | 132 | 162 | 62 |
| Eulophidae | 535 | 85 | 42 | 118 | 90 | 66 | 121 | 119 | 20 | 48 | 74 | 33 |
| Braconidae | 531 | 97 | 95 | 88 | 80 | 72 | 88 | 88 | 15 | 104 | 45 | 43 |
| Platygastridae | 472 | 96 | 34 | 103 | 87 | 61 | 57 | 186 | 23 | 107 | 72 | 46 |
| Diapriidae | 300 | 79 | 26 | 33 | 34 | 29 | 60 | 193 | 23 | 91 | 74 | 26 |
| Mymaridae | 211 | 67 | 19 | 114 | 64 | 36 | 72 | 32 | 12 | 58 | 37 | 32 |
| Bethylidae | 205 | 42 | 13 | 56 | 26 | 69 | 50 | 62 | 1 | 24 | 33 | 31 |
| Aphelinidae | 186 | 48 | 2 | 55 | 39 | 43 | 45 | 25 | 7 | 24 | 26 | 10 |
| Ceraphronidae | 152 | 49 | 14 | 14 | 30 | 15 | 43 | 52 | 7 | 11 | 21 | 0 |
| Encyrtidae | 130 | 26 | 1 | 22 | 37 | 39 | 16 | 14 | 5 | 12 | 13 | 1 |
| Figitidae | 121 | 18 | 3 | 13 | 14 | 5 | 15 | 22 | 7 | 31 | 61 | 22 |
| Pteromalidae | 88 | 30 | 52 | 8 | 11 | 15 | 14 | 49 | 3 | 6 | 22 | 1 |
| Trichogrammatidae | 76 | 46 | 2 | 34 | 24 | 25 | 7 | 4 | 5 | 16 | 8 | 7 |
| Evanidae | 55 | 9 | 9 | 21 | 37 | 55 | 3 | 25 | 2 | 6 | 2 | 7 |
| Dryinidae | 51 | 8 | 1 | 5 | 9 | 20 | 8 | 6 | 0 | 3 | 3 | 11 |
| Tiphiidae | 34 | 1 | 1 | 0 | 3 | 6 | 2 | 4 | 0 | 15 | 9 | 7 |
| Eupelmidae | 32 | 3 | 0 | 17 | 12 | 5 | 5 | 6 | 1 | 6 | 3 | 5 |
| Chrysididae | 24 | 1 | 0 | 14 | 8 | 12 | 1 | 1 | 0 | 0 | 1 | 1 |
| Chalcididae | 21 | 6 | 0 | 3 | 3 | 6 | 1 | 2 | 0 | 0 | 4 | 0 |
| Torymidae | 20 | 2 | 0 | 4 | 5 | 22 | 4 | 2 | 1 | 0 | 2 | 0 |
| Megaspilidae | 19 | 0 | 1 | 1 | 1 | 0 | 5 | 7 | 3 | 6 | 14 | 3 |
| Azotidae | 17 | 4 | 0 | 6 | 1 | 4 | 5 | 1 | 0 | 0 | 1 | 0 |
| Eurytomidae | 13 | 1 | 0 | 3 | 3 | 5 | 1 | 0 | 0 | 2 | 4 | 2 |
| Scoliidae | 9 | 10 | 0 | 8 | 2 | 0 | 2 | 0 | 0 | 0 | 6 | 0 |
| Mutillidae | 9 | 0 | 0 | 13 | 1 | 4 | 1 | 0 | 0 | 0 | 1 | 1 |
| Pirenidae | 7 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 2 | 1 | 0 |
| Proctotrupidae | 5 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 3 | 0 |
| Thynnidae | 4 | 0 | 0 | 0 | 7 | 11 | 3 | 2 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | |
|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Agaonidae | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 |
| Diparidae | 4 | 0 | 1 | 0 | 4 | 0 | 2 | 4 | 0 | 0 | 0 | 0 |
| Eucharitidae | 4 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Mymarommatidae | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Rhopalosommatidae | 2 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cleonymidae | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Gasteruptiidae | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ismaridae | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| Sclerogibbidae | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ormyridae | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Signiphoridae | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Sparasionidae | 1 | 0 | 0 | 1 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| ?Torymidae | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nixoniidae | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Metapelmatidae | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Embolemyidae | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Spalangidae | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

Table S3. Species level identifications based on BIN membership.

| Species | Family |
|-----------------------------------|---------------|
| <i>Aleiodes chenduplus</i> | Braconidae |
| <i>Aleiodes coronopus</i> | Braconidae |
| <i>Aleiodes pronopus</i> | Braconidae |
| <i>Aleiodes rincewindi</i> | Braconidae |
| <i>Aleiodes risaee</i> | Braconidae |
| <i>Anagrus flaviapex</i> | Mymaridae |
| <i>Anteon brachycerum</i> | Dryinidae |
| <i>Aphanogmus fijiensis</i> | Ceraphronidae |
| <i>Aphelinus gossypii</i> | Aphelinidae |
| <i>Aphelinus varipes</i> | Aphelinidae |
| <i>Apleurotropis viswanathani</i> | Eulophidae |
| <i>Ateleute densistriata</i> | Ichneumonidae |
| <i>Augerella orientalis</i> | Ichneumonidae |
| <i>Binodoxys acalephae</i> | Braconidae |
| <i>Casinaria pyreneator</i> | Ichneumonidae |
| <i>Coccophagus bogoriensis</i> | Aphelinidae |
| <i>Coleopioides postpectalis</i> | Braconidae |
| <i>Colpotrochia pilosa</i> | Ichneumonidae |
| <i>Copidosoma floridanum</i> | Encyrtidae |
| <i>Diolcogaster connexa</i> | Braconidae |
| <i>Dryinus stantoni</i> | Dryinidae |
| <i>Encarsia azimi</i> | Aphelinidae |
| <i>Encarsia inaron</i> | Aphelinidae |

| | |
|----------------------------------|----------------|
| <i>Encarsia lounsburyi</i> | Aphelinidae |
| <i>Enicospilus dolosus</i> | Ichneumonidae |
| <i>Enicospilus nigropectus</i> | Ichneumonidae |
| <i>Epitheronia tomerus</i> | Ichneumonidae |
| <i>Heptascelio hamatus</i> | Scelionidae |
| <i>Hyposoter leucomerus</i> | Ichneumonidae |
| <i>Ischnus curvimaculatus</i> | Ichneumonidae |
| <i>Isotima rufithorax</i> | Ichneumonidae |
| <i>Kotenkosius tricarinatus</i> | Braconidae |
| <i>Lipolexis oregmae</i> | Braconidae |
| <i>Macroteleia indica</i> | Scelionidae |
| <i>Megastylus pectoralis</i> | Ichneumonidae |
| <i>Mimipodoryctes rubriceps</i> | Braconidae |
| <i>Monontos niphonicus</i> | Ichneumonidae |
| <i>Olesicampe melanogaster</i> | Ichneumonidae |
| <i>Otitesella minima-VIR</i> | Pteromalidae |
| <i>Oxyscelio arcus</i> | Scelionidae |
| <i>Oxyscelio intermediatus</i> | Scelionidae |
| <i>Oxyscelio kiefferi</i> | Scelionidae |
| <i>Oxyscelio nubbin</i> | Scelionidae |
| <i>Oxyscelio ogive</i> | Scelionidae |
| <i>Paratelenomus saccharalis</i> | Scelionidae |
| <i>Platygaster demades</i> | Platygastridae |
| <i>Plectiscus callidulus</i> | Ichneumonidae |
| <i>Reclinervellus nielseni</i> | Ichneumonidae |
| <i>Skeatia rugosa</i> | Ichneumonidae |
| <i>Stenarella insidiator</i> | Ichneumonidae |
| <i>Tebennotoma aciculatus</i> | Braconidae |
| <i>Telenomus turesis</i> | Scelionidae |
| <i>Trathala flavoorbitalis</i> | Ichneumonidae |
| <i>Xanthopimpla elegans</i> | Ichneumonidae |
| <i>Xanthopimpla yoshimurai</i> | Ichneumonidae |

Table S4. Number of individual Ichneumonidae Braconidae specimens per trap. The larger value for each trap is in bold font.

| Trap | Ichneumonidae | Braconidae |
|---------------|---------------|------------|
| KhaoYai 1 | 224 | 153 |
| KhaoYai 2 | 171 | 114 |
| KhaoYai 3 | 126 | 111 |
| KhaoYai 4 | 288 | 120 |
| Sakaerat 1 | 84 | 86 |
| Sakaerat 2 | 107 | 109 |
| Sakaerat 3 | 77 | 107 |
| Doi Phu Kha 1 | 43 | 20 |

| | | |
|---------------|------------|-----|
| Doi Phu Kha 1 | 164 | 140 |
| Doi Phu Kha 1 | 198 | 55 |
| Doi Phu Kha 1 | 70 | 49 |

Table S5. Number of Ichneumonidae Braconidae BINs per trap. The larger value for each trap is in bold font.

| Trap | Ichneumonidae | Braconidae |
|---------------|----------------------|-------------------|
| KhaoYai 1 | 125 | 111 |
| KhaoYai 2 | 86 | 68 |
| KhaoYai 3 | 74 | 77 |
| KhaoYai 4 | 147 | 80 |
| Sakaerat 1 | 48 | 47 |
| Sakaerat 2 | 65 | 61 |
| Sakaerat 3 | 53 | 71 |
| Doi Phu Kha 1 | 34 | 19 |
| Doi Phu Kha 1 | 114 | 102 |
| Doi Phu Kha 1 | 115 | 46 |
| Doi Phu Kha 1 | 62 | 43 |



Figure S1. Photographs of the 11 Malaise traps *in situ*. (A-D) Traps 1-4 in Khao Yai National Park, respectively; (E-G) Traps 1-3 at Sakaerat Environmental Research Station, respectively; (H-K) Traps 1-4 in Doi Phu Kha National Park, respectively.