**Appendix 1. Dung beetle species and their numbers, recorded in a silvopastoral landscape in Chiapas, Mexico.** DA= daily activity, N= nocturnal, D=diurnal. FP= food preference. C= coprophagous, G= generalist, NE= necrophagous. FR= Food relocation, B= burrower, R= roller. BS= beetle size, S= small, M= medium, L= large. HP= habitat preference, Pasture with *Acacia* shrubs*=* PA. Pasture with no trees or shrubs= P. Ravine in a tropical dry forest= RA. Managed four-year-old *Acacia* bush= MAB4. Managed two-year-old *Acacia* bush= MAB2. Tropical subdeciduous forest= TSDF. Mature fallow=MF. Mature *Acacia* forest= MAF. Numbers in the first column are those used to identify species in Figure 2.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Late stage S3 | Intermediate stage S2 | Early stage S1 |  |
|  | Species | DA | FP | FR | BS | HP | TDSF | TDF | MAF | MF | RA | MAB4 | MAB2 | PA | P | Total |
| 10 | *Agamopus lampros* | N | C | CA | CH | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 21 | *Ateuchus rodriguezi* | N | G | CA | CH | G | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 5 |
| 22 | *Canthidium laetum* | D | C | CA | CH | G | 4 | 1 | 6 | 1 | 0 | 3 | 1 | 0 | 0 | 16 |
| 2 | *Canthon (Glaphyrocanthon) delgadoi* | D | G | R | CH | G | 2 | 0 | 1 | 10 | 8 | 23 | 11 | 60 | 10 | 125 |
| 26 | *Canthon (Glaphyrocanthon) lucreciae* | D | C | R | CH | G | 8 | 8 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 23 |
| 18 | *Canthon femoralis* | D | C | R | M | S3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 6 | *Canthon cyanellus cyanellus* | D | NE | R | M | S3 | 6 | 31 | 1 | 14 | 15 | 23 | 22 | 20 | 16 | 148 |
| 4 | *Canthon humectus sayi* | D | C | R | M | P | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 22 | 0 | 24 |
| 1 | *Canthon indigaceus chiapas* | D | C | R | M | P | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 152 | 28 | 182 |
| 9 | *Copris lugubris* | N | C | CA | M | G | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 2 | 0 | 8 |
| 31 | *Copris laeviceps* | N | C | CA | M | S3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 16 | *Copris incertus* | N | C | CA | M | G | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 |
| 7 | *Coprophanaeus telamon corythus* | N | NE | CA | GR | P | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 8 | 2 | 12 |
| 30 | *Deltochilum lobipes* | N | NE | CA | GR | S3 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 27 | *Deltochilum gibbosum* | N | NE | CA | GR | S3 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 28 | *Deltochilum scabriusculum* | N | C | CA | GR | S3 | 5 | 31 | 9 | 27 | 0 | 0 | 0 | 0 | 0 | 72 |
| 15 | *Dichotomius amplicollis* | N | C | CA | GR | S3 | 10 | 29 | 1 | 20 | 8 | 15 | 2 | 0 | 0 | 85 |
| 11 | *Dichotomius colonicus* | N | C | CA | GR | P | 0 | 3 | 7 | 1 | 0 | 0 | 1 | 1 | 0 | 13 |
| 13 | *Euoniticellus intermedius* | D | C | R | M | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 20 | *Eurysternus mexicanus* | D | C | R | M | G | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 7 |
| 23 | *Onthophagus acuminatus* | N | C | CA | CH | G | 0 | 3 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 7 |
| 25 | *Onthophagus landolti* | D | C | CA | CH | S3 | 0 | 1 | 0 | 5 | 1 | 0 | 0 | 0 | 0 | 7 |
| 19 | *Onthophagus violetae* | N | C | CA | CH | S3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 32 | *Pedaridium maya* | N | C | CA | CH | G | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 12 | *Phanaeusendymion* | D | G | CA | M | S3 | 5 | 43 | 5 | 28 | 0 | 5 | 3 | 1 | 1 | 104 |
| 3 | *Phanaeus tridens* | D | C | CA | M | G | 0 | 0 | 1 | 1 | 0 | 0 | 3 | 31 | 0 | 40 |
| 33 | *Phanaeus wagneri* | D | C | CA | GR | G | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 29 | *Phanaeus demon* | D | C | CA | GR | S3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 14 | *Scatimus ovatus* | N | C | CA | CH | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 33 | *Uroxys deavilai* | N | C | CA | CH | S3 | 2 | 152 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 158 |