Supplementary Material S1. Number of individuals of dung beetle species collected from each treatment of the two factors. For each treatment, inventory completeness was also reported according to the INext estimators. LG: low grazing; MG: moderate grazing; ECO: VMP-free; VMP: with the use of VMPs.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Species** | **ECO** | **VMP** | **LG** | **MG** | **Total** |
| *Acanthobodilus immundus* (Creutzer, 1799) | 21 | 2 | 4 | 19 | 23 |
| *Acrossus luridus* (Fabricius, 1775) | 217 | 9 | 170 | 56 | 226 |
| *Acrossus rufipes* (Linnaeus, 1758) | 0 | 4 | 0 | 4 | 4 |
| *Agrilinus constans* (Duftschmid, 1805) | 1 | 0 | 0 | 1 | 1 |
| *Agrilinus convexus* (Erichson, 1848) | 23 | 0 | 0 | 23 | 23 |
| *Aphodius coniugatus* (Panzer, 1795) | 4 | 2 | 5 | 1 | 6 |
| *Aphodius fimetarius* (Linnaeus, 1758) | 124 | 13 | 119 | 18 | 137 |
| *Aphodius foetidus* (Herbst, 1783) | 9 | 0 | 3 | 6 | 9 |
| *Biralus mahunkaorum* (Ádám, 1983) | 0 | 1 | 1 | 0 | 1 |
| *Bodilopsis rufa* (Moll, 1782) | 42 | 779 | 21 | 800 | 821 |
| *Bodiloides ictericus* (Laicharting, 1781) | 11 | 0 | 0 | 11 | 11 |
| *Calamosternus granarius* (Linnaeus, 1767) | 20 | 2 | 0 | 22 | 22 |
| *Calamosternus mayeri* (Pilleri, 1953) | 1 | 0 | 1 | 0 | 1 |
| *Chilothorax conspurcatus* (Linnaeus, 1758) | 749 | 32 | 732 | 49 | 781 |
| *Chilothorax lineolatus* (Illiger, 1803) | 3 | 0 | 2 | 1 | 3 |
| *Chilothorax paykulli* (Bedel, 1907) | 53 | 0 | 0 | 53 | 53 |
| *Colobopterus erraticus* (Linnaeus, 1758) | 1005 | 1964 | 1706 | 1263 | 2969 |
| *Coprimorphus scrutator* (Herbst, 1789) | 6 | 167 | 3 | 170 | 173 |
| *Esymus merdarius* (Fabricius, 1775) | 103 | 3 | 102 | 4 | 106 |
| *Esymus pusillus* (Herbst, 1789) | 19 | 8 | 14 | 13 | 27 |
| *Eurodalus paracoenosus* (Balthasar & Hrubant, 1960) | 2 | 0 | 0 | 2 | 2 |
| *Labarrus lividus* (Olivier, 1789) | 219 | 310 | 125 | 404 | 529 |
| *Limarus zenkeri* (Germar, 1813) | 2 | 0 | 0 | 2 | 2 |
| *Loraphodius suarius* (Faldermann, 1836) | 47 | 5 | 34 | 18 | 52 |
| *Melinopterus consputus* (Creutzer, 1799) | 94951 | 6449 | 98709 | 2691 | 101400 |
| *Melinopterus prodromus* (Brahm, 1790) | 7289 | 20 | 1135 | 6174 | 7309 |
| *Melinopterus reyi* (Reitter, 1892) | 16 | 0 | 0 | 16 | 16 |
| *Melinopterus stolzi* (Reitter, 1906) | 2 | 0 | 0 | 2 | 2 |
| *Nialus varians* (Duftschmid, 1805) | 9 | 0 | 0 | 9 | 9 |
| *Nimbus contaminatus* (Herbst, 1783) | 464 | 341 | 470 | 335 | 805 |
| *Nimbus johnsoni* (Baraud, 1976) | 20 | 1 | 7 | 14 | 21 |
| *Nimbus obliteratus* (Panzer, 1823) | 2309 | 260 | 2170 | 399 | 2569 |
| *Otophorus haemorroidalis* (Linnaeus, 1758) | 21 | 39 | 0 | 60 | 60 |
| *Phalacronothus biguttatus* (Germar, 1824) | 4 | 0 | 1 | 3 | 4 |
| *Planolinus fasciatus* (Olivier, 1789) | 1 | 0 | 1 | 0 | 1 |
| *Sigorus porcus* (Fabricius, 1792) | 234 | 102 | 254 | 82 | 336 |
| *Teuchestes fossor* (Linnaeus, 1758) | 0 | 11 | 0 | 11 | 11 |
| *Trichonotulus scrofa* (Fabricius, 1787) | 192 | 54 | 192 | 54 | 246 |
| *Bubas bison* (Linnaeus, 1767) | 103 | 3 | 14 | 92 | 106 |
| *Caccobius schreberi* (Linnaeus, 1767) | 5 | 8 | 2 | 11 | 13 |
| *Copris lunaris* (Linnaeus, 1758) | 15 | 8 | 3 | 20 | 23 |
| *Euoniticellus fulvus* (Goeze, 1777) | 4955 | 2401 | 4359 | 2997 | 7356 |
| *Onthophagus coenobita* (Herbst, 1783) | 168 | 16 | 36 | 148 | 184 |
| *Onthophagus fracticornis* (Preyssler, 1790) | 3157 | 5881 | 1418 | 7620 | 9038 |
| *Onthophagus grossepunctatus* Reitter, 1905 | 110 | 0 | 0 | 110 | 110 |
| *Onthophagus illyricus* (Scopoli, 1763) | 1 | 1 | 1 | 1 | 2 |
| *Onthophagus joannae* Goljan, 1953 | 26 | 7 | 31 | 2 | 33 |
| *Onthophagus lemur* (Fabricius, 1781) | 324 | 66 | 74 | 316 | 390 |
| *Onthophagus medius* (Kugelann, 1792) | 10151 | 666 | 10216 | 601 | 10817 |
| *Onthophagus opacicollis* Reitter, 1892 | 36 | 0 | 12 | 24 | 36 |
| *Onthophagus ruficapillus* Brullé, 1832 | 178 | 6 | 7 | 177 | 184 |
| *Onthophagus taurus* (Schreber, 1759) | 710 | 81 | 69 | 722 | 791 |
| *Onthophagus verticicornis* (Laicharting, 1781) | 122 | 165 | 149 | 138 | 287 |
| *Sisyphus schaefferi* (Linnaeus, 1758) | 10 | 9 | 11 | 8 | 19 |
| *Sericotrupes niger* (Marsham, 1802) | 229 | 24 | 75 | 178 | 253 |
| *Geotrupes spiniger* Marsham, 1802 | 123 | 125 | 153 | 95 | 248 |
| *Trypocopris vernalis apenninicus* Mariani, 1958 | 0 | 7 | 0 | 7 | 7 |
| Total species (S) | 53 | 41 | 42 | 54 | 57 |
| Total individuals (N) | 128616 | 20052 | 122611 | 26057 | 148668 |
| Sampling coberture (%) | 99 | 99 | 100 | 99 |  |