

# Effect of Grazing Management on Predator Soil Mite Communities (Acari: Mesotigmata) in Some Subalpine Grasslands from the Făgăraș Mountains—Romania

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Table S1. Results of analysis of variance (ANOVA) in the generalized linear mixed effects models (GLMM) procedure testing the effect of grassland type and environmental variables on mite diversity. Statistically significant results are in bold. Df - degree of freedom;  $\chi^2$  - chi-square test; P - significance level; GT - grassland type.

|        | Abundance |          |        | Species richness |       | Shannon-Wiener diversity index |       |
|--------|-----------|----------|--------|------------------|-------|--------------------------------|-------|
|        | Df        | $\chi^2$ | P      | $\chi^2$         | P     | $\chi^2$                       | P     |
| GT     | 1         | 0.289    | 0.591  | 0.095            | 0.757 | 0.001                          | 0.978 |
| Tsoil  | 1         | 0.895    | 0.344  | 0.012            | 0.912 | 0.908                          | 0.340 |
| Usoil  | 1         | 0.006    | 0.940  | 0.808            | 0.368 | 0.084                          | 0.772 |
| RP     | 1         | 0.023    | 0.878  | 0.102            | 0.749 | 0.675                          | 0.411 |
| pH     | 1         | 0.359    | 0.549  | 0.089            | 0.765 | 0.008                          | 0.930 |
| CE     | 1         | 1.114    | 0.291  | 5.473            | 0.019 | 3.635                          | 0.057 |
| VegCov | 1         | 17.401   | <0.001 | 7.243            | 0.007 | 2.370                          | 0.124 |

Table S2: Numerical abundance and some population parameters of soil mites' communities from ungrazed and intensive grazed grasslands from Făgăraș Mountains, in 2018, from Romania.

| No crt | Species                         | Short name | Sun | Cun | Vun | Gun | Total ungrazed | Vg | Sg | Cg | Gg | Total intensive grazed | Total grazed+ungrazed |
|--------|---------------------------------|------------|-----|-----|-----|-----|----------------|----|----|----|----|------------------------|-----------------------|
| 1      | <i>Alliphis halleri</i>         | Alli hall  | 0   | 0   | 0   | 0   | 0              | 0  | 64 | 0  | 0  | 64                     | 64                    |
| 2      | <i>Amblyseius sp.</i>           | Ambl sp    | 0   | 2   | 0   | 0   | 2              | 0  | 0  | 0  | 0  | 0                      | 2                     |
| 3      | <i>Ameroseius sp.</i>           | Amer sp    | 1   | 0   | 0   | 0   | 1              | 0  | 0  | 0  | 0  | 0                      | 1                     |
| 4      | <i>Arctoseius cetratus</i>      | Arct cetr  | 7   | 0   | 0   | 0   | 7              | 0  | 13 | 0  | 0  | 13                     | 20                    |
| 5      | <i>Arctoseius eremitus</i>      | Arct erem  | 0   | 0   | 0   | 1   | 1              | 0  | 0  | 0  | 0  | 0                      | 1                     |
| 6      | <i>Arctoseius resinae</i>       | Arct resi  | 0   | 0   | 0   | 0   | 0              | 1  | 0  | 0  | 0  | 1                      | 1                     |
| 7      | <i>Asca bicornis</i>            | Asca bico  | 0   | 1   | 0   | 0   | 1              | 0  | 0  | 0  | 0  | 0                      | 1                     |
| 8      | <i>Gamasellodes insignis</i>    | Gama insi  | 0   | 0   | 0   | 0   | 0              | 0  | 1  | 0  | 0  | 1                      | 1                     |
| 9      | <i>Geolaelaps aculeifer</i>     | Geol acul  | 0   | 0   | 0   | 2   | 2              | 0  | 0  | 0  | 0  | 0                      | 2                     |
| 10     | <i>Geolaelaps nolli</i>         | Geol nolli | 3   | 0   | 0   | 0   | 3              | 0  | 0  | 0  | 0  | 0                      | 3                     |
| 11     | <i>Geolaelaps praesternalis</i> | Geol prae  | 3   | 7   | 5   | 4   | 19             | 0  | 9  | 5  | 2  | 16                     | 35                    |
| 12     | <i>Iphidonopsis sculptus</i>    | Iphi scul  | 0   | 0   | 0   | 1   | 1              | 0  | 0  | 0  | 0  | 0                      | 1                     |
| 13     | <i>Iphidozercon gibbus</i>      | Iphi gibb  | 0   | 0   | 0   | 0   | 0              | 0  | 2  | 0  | 0  | 2                      | 2                     |
| 14     | <i>Leiodinychus orbicularis</i> | Leio orbi  | 0   | 0   | 0   | 0   | 0              | 0  | 0  | 0  | 1  | 1                      | 1                     |
|        | <i>Leptogamaus</i>              |            |     |     |     |     |                |    |    |    |    |                        |                       |
| 15     | <i>tectegynellus</i>            | Lept tect  | 1   | 0   | 0   | 0   | 1              | 0  | 0  | 0  | 0  | 0                      | 1                     |
| 16     | <i>Lysigamasus sp.</i>          | Lysi sp    | 0   | 2   | 0   | 0   | 2              | 0  | 0  | 1  | 0  | 1                      | 3                     |
| 17     | <i>Onchodellus alpinus</i>      | Onch alpi  | 2   | 0   | 0   | 0   | 2              | 0  | 1  | 0  | 0  | 1                      | 3                     |
| 18     | <i>Oodinychus ovalis</i>        | Oodi oval  | 1   | 0   | 0   | 0   | 1              | 0  | 0  | 0  | 0  | 0                      | 1                     |
| 19     | <i>Parasitus sp.</i>            | Para sp    | 1   | 1   | 0   | 0   | 2              | 0  | 0  | 0  | 0  | 0                      | 2                     |
| 20     | <i>Pergamasus crassipes</i>     | Perg cras  | 0   | 1   | 0   | 0   | 1              | 0  | 0  | 0  | 0  | 0                      | 1                     |
|        | <i>Pergamasus</i>               |            |     |     |     |     |                |    |    |    |    |                        |                       |
| 21     | <i>quisquiliarum</i>            | Perq quis  | 1   | 0   | 0   | 0   | 1              | 0  | 0  | 0  | 0  | 0                      | 1                     |
| 22     | <i>Punctodendrolaelaps sp.</i>  | Punc sp    | 5   | 0   | 0   | 0   | 5              | 0  | 0  | 0  | 0  | 0                      | 5                     |
| 23     | <i>Trachytes aegrota</i>        | Trac aegr  | 0   | 0   | 0   | 0   | 0              | 0  | 0  | 0  | 1  | 1                      | 1                     |
| 24     | <i>Urodiaspis sp.</i>           | Urod sp    | 0   | 0   | 0   | 1   | 1              | 0  | 0  | 0  | 0  | 0                      | 1                     |
| 25     | <i>Veigaia exigua</i>           | Veig exig  | 0   | 0   | 0   | 0   | 0              | 2  | 0  | 0  | 0  | 2                      | 2                     |
| 26     | <i>Veigaia nemorensis</i>       | Veig nemo  | 1   | 0   | 1   | 0   | 2              | 0  | 4  | 0  | 0  | 4                      | 6                     |
|        | <i>Vulgarogamasus</i>           |            |     |     |     |     |                |    |    |    |    |                        |                       |
| 27     | <i>kraepelini</i>               | Vulg krae  | 0   | 2   | 0   | 0   | 2              | 0  | 0  | 0  | 0  | 0                      | 2                     |

|    |                           |           |       |       |       |       |       |       |       |       |       |       |       |
|----|---------------------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 28 | <i>Zercon carpathicus</i> | Zerc carp | 0     | 7     | 0     | 2     | 9     | 0     | 6     | 0     | 1     | 7     | 16    |
| 29 | <i>Zercon fageticola</i>  | Zerc fage | 0     | 0     | 0     | 0     | 0     | 1     | 0     | 0     | 0     | 1     | 1     |
| 30 | <i>Zercon sp.</i>         | Zerc sp   | 3     | 0     | 0     | 0     | 3     | 0     | 0     | 0     | 0     | 0     | 3     |
|    | No. of species            |           | 12    | 8     | 2     | 6     | 22    | 8     | 2     | 3     | 4     | 14    | 30    |
|    | No. of individuals        |           | 29    | 23    | 6     | 11    | 69    | 4     | 100   | 6     | 5     | 115   | 184   |
|    | Dominance_D               |           | 0.132 | 0.214 | 0.722 | 0.223 | 0.120 | 0.440 | 0.722 | 0.375 | 0.280 | 0.348 | 0.181 |
|    | Simpson_1-D               |           | 0.868 | 0.786 | 0.278 | 0.777 | 0.880 | 0.560 | 0.278 | 0.625 | 0.720 | 0.652 | 0.820 |
|    | Shannon_H                 |           | 2.231 | 1.770 | 0.451 | 1.642 | 2.587 | 1.235 | 0.451 | 1.040 | 1.332 | 1.564 | 2.306 |
|    | Evenness_e^H/S            |           | 0.776 | 0.734 | 0.785 | 0.861 | 0.604 | 0.430 | 0.785 | 0.943 | 0.947 | 0.341 | 0.335 |
|    | Equitability_J            |           | 0.898 | 0.851 | 0.650 | 0.916 | 0.837 | 0.594 | 0.650 | 0.946 | 0.961 | 0.593 | 0.678 |