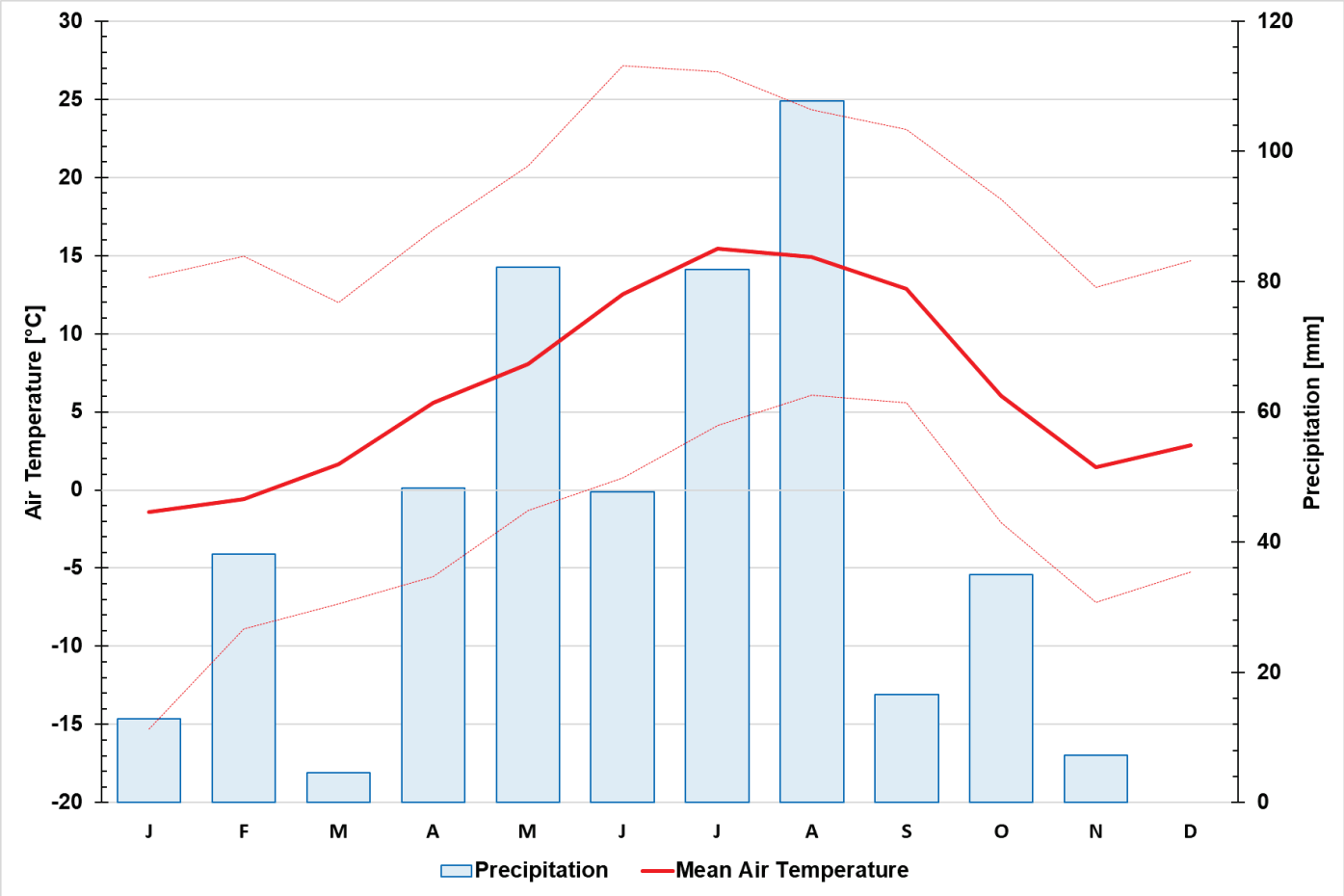
Supplemental material for

"Soil Macroinvertebrate Distribution Along a Subalpine Land Use Transect", by Katherina Damisch, Michael Steinwandter, Ulrike Tappeiner, and Julia Seeber, published in *Mountain Research and Development* 40(2), 2020. (See https://bioone.org/toc/mred/40/2)

APPENDIX S1 Monthly mean air temperature and cumulative precipitation of 2016 in the study area at Muntatschinig/Montescino within the LTSER area of Val Mazia/Matschertal, Italy. The upper and lower dotted red lines respectively represent the maximal and minimal air temperature of the corresponding month. The values were measured every 15 minutes at a meteorological weather station at the plot P2 (dry pasture at 1500 m a.s.l.). Data were retrieved from and are accessible freely at the web application "LTER data browser" (https://browser-stage.lter.eurac.edu/).



APPENDIX S2 Characteristics and soil parameters (mean and SD) of the sampled plots. Data from the 4 sampling dates was pooled. SOM, soil organic matter content; P1–P3, dry pastures; H1–H3, intensively used hay meadows; L1–L3, larch forests, and S1–S3, spruce forests.

Plot ID	**Elevation**	**Exposition**	**Inclination**	**Soil Moisture**	**Soil Temperature**	**pH**	**SOM**	**C:N**
n = 12	[m]	[°]	[°]	[% l/WC]	[°C at 5 cm]		[%]	
P1	1531	247.5	25	22.28 (9.41)	16.05 (3.35)	5.45 (0.30)	5.70 (1.46)	16.95 (7.72)
P2	1552	225.0	10	29.48 (11.44)	16.29 (2.70)	5.36 (0.36)	8.86 (2.19)	12.50 (0.98)
P3	1556	225.0	15	27.24 (14.24)	15.44 (2.32)	5.32 (0.25)	8.24 (1.78)	13.39 (1.04)
H1	1469	225.0	10	39.42 (6.43)	12.48 (6.09)	5.57 (0.38)	15.58 (2.05)	10.18 (0.61)
H2	1429	225.0	15	34.38 (6.68)	14.52 (3.22)	5.95 (0.51)	12.45 (2.04)	10.68 (1.04)
H3	1435	225.0	15	34.87 (6.52)	13.68 (3.23)	5.94 (0.22)	14.21 (1.88)	11.19 (0.70)
L1	1663	135.0	20	16.10 (11.43)	8.78 (2.44)	4.87 (0.36)	11.01 (4.51)	18.65 (2.44)
L2	1588	225.0	15	21.57 (11.07)	9.93 (1.93)	4.97 (0.31)	8.90 (2.68)	17.76 (2.92)
L3	1533	202.5	20	20.08 (13.86)	10.33 (2.21)	5.12 (0.44)	11.31 (3.37)	17.48 (2.48)
S1	1642	225.0	30	14.28 (11.48)	8.41 (2.32)	4.45 (0.70)	17.05 (10.04)	22.57 (2.77)
S2	1672	225.0	25	7.00 (4.87)	8.01 (1.88)	3.93 (0.56)	17.21 (13.42)	27.91 (6.03)
S3	1621	225.0	20	11.03 (9.06)	8.54 (1.60)	4.10 (0.63)	19.87 (16.01)	27.23 (6.62)

APPENDIX S3 Mean abundance as individuals per m² and standard deviation (in parenthesis) of soil macroinvertebrates from soil monoliths from 4 alpine habitat types. The values represent the mean abundances from 4 sampling dates and three replicates each (i.e. $n = 36$). Some found taxa such as Hymenoptera, juvenile Heteroptera and Hemiptera, adult Diptera, and mesofauna groups were excluded. *** new finding.

(part 1/4)	Dry Pasture (P)	Hay Meadow (H)	Larch Forest (L)	Spruce Forest (S)
GASTROPODA	**47.22 (69.64)**	**11.11 (15.17)**	**32.64 (52.04)**	**12.50 (27.71)**
LUMBRICIDAE	**50.00 (84.94)**	**262.50 (240.20)**	**102.08 (90.90)**	**55.56 (68.69)**
Aporrectodea rosea (Savigny, 1826)	*0.69 (4.17)*	*2.08 (9.21)*	*0.69 (4.17)*	–
Aporrectodea sp.	*29.17 (78.72)*	*30.56 (48.59)*	*11.11 (21.08)*	*2.08 (7.01)*
Dendrobaena octaedra (Savigny, 1826)	–	*3.47 (10.61)*	*5.56 (13.51)*	*2.08 (9.21)*
Dendrobaena sp.	–	*8.33 (23.90)*	*13.19 (24.99)*	*4.17 (15.24)*
Lumbricus rubellus (Hoffmeister, 1843)	–	*11.11 (18.37)*	–	*1.39 (5.81)*
Lumbricus sp.	*1.39 (5.81)*	*95.83 (117.34)*	*15.97 (25.46)*	*9.03 (21.67)*
Octolasion lacteum (Orley, 1881)	*0.69 (4.17)*	*13.89 (31.87)*	–	–
Octolasion sp.	*3.47 (10.61)*	*2.08 (9.21)*	*7.64 (23.77)*	–
juvenile / indet.	*14.58 (29.50)*	*95.14 (142.78)*	*47.92 (66.92)*	*36.81 (55.90)*
ENCHYTRAEIDAE	**11.81 (23.52)**	**50.69 (84.19)**	**30.56 (45.56)**	**7.64 (15.61)**
ARANEAE	**76.39 (112.43)**	**34.72 (49.74)**	**238.89 (297.22)**	**90.97 (124.09)**
Theridiidae	2.08 (9.21)	–	2.08 (7.01)	–
Asagena phalerata (Panzer, 1801)	*2.08 (9.21)*	–	–	–
Enoplognatha thoracica (Hahn, 1833)	–	–	*1.39 (5.81)*	–
juvenile / indet.	–	–	*0.69 (4.17)*	–
Linyphiidae	52.78 (79.68)	27.78 (46.97)	231.25 (292.91)	89.58 (121.06)
Agyneta affinis (Kulczyński, 1898)	–	–	*2.08 (7.01)*	–
Bolyphantes alticeps (Sundevall, 1833)	–	–	*0.69 (4.17)*	–
Caracladus avicula (L. Koch, 1869)	–	–	*12.50 (34.59)*	*8.33 (21.15)*
Ceratinella brevis (Wider, 1834)	–	–	*2.08 (9.21)*	–
Diplocentria bidentate (Emerton, 1882)	–	–	*0.69 (4.17)*	*3.47 (13.57)*
Erigone atra Blackwall, 1833	–	*1.39 (5.81)*	–	–
Erigone dentipalpis (Wider, 1834)	–	*1.39 (5.81)*	–	*0.69 (2.95)*
Macrargus rufus (Wider, 1834)	–	–	–	*0.69 (4.17)*
Mecopistes silus (O. P.-Cambridge, 1873)	–	–	*1.39 (5.81)*	–
Mermessus trilobatus (Emerton, 1882)	*4.86 (21.40)*	–	–	–
Micrargus subaequalis (Westring, 1851)	–	–	*3.47 (17.06)*	*0.69 (4.17)*
Pocadicnemis pumila (Blackwall, 1841)	–	–	*1.39 (5.81)*	–
Scotargus pilosus Simon, 1913	–	–	*0.69 (4.17)*	–
Scotinotylus alpigenus (L. Koch, 1869)	–	–	–	*0.69 (4.17)*
Tapinocyba pallens (O. P.-Cambridge, 1873)	–	–	*46.53 (75.63)*	*10.42 (30.69)*
Tenuiphantes mengei (Kulczyński, 1887)	–	–	*0.69 (4.17)*	–
Tiso vagans (Blackwall, 1834)	–	*1.39 (5.81)*	*4.17 (14.02)*	–
Trichopterna cito (O. P.-Cambridge, 1873)	*2.08 (9.21)*	–	–	–
Walckanaeria sp.	–	–	–	*0.69 (4.17)*
juvenile / indet.	*45.83 (68.53)*	*23.61 (41.81)*	*154.86 (211.19)*	*63.19 (84.83)*
Araneidae: *Hypososinga sp.*	0.69 (4.17)	–	–	–
Lycosidae	6.25 (21.86)	6.94 (12.83)	2.78 (9.96)	–
Alopecosa trabalis (Clerck, 1757)	–	*0.69 (4.17)*	–	–
Alopecosa sp.	*0.69 (4.17)*	–	*0.69 (4.17)*	–
Pardosa sp.	*1.39 (5.81)*	*4.86 (10.03)*	*0.69 (4.17)*	–
juvenile / indet.	*4.17 (17.42)*	*1.39 (5.81)*	*1.39 (8.33)*	–
Cybaeidae: *Cryphoeca silvicola* (C. L. Koch, 1834)	–	–	–	0.69 (4.17)
Clubionidae: *Clubonia sp.*	–	–	0.69 (4.17)	–
Gnaphosidae	9.72 (23.36)	–	1.39 (5.81)	0.69 (4.17)
Gnaphosa sp.	–	–	–	*0.69 (4.17)*
Zelotes clivicola (L. Koch, 1870)	–	–	*0.69 (4.17)*	–
juvenile / indet.	*9.72 (23.36)*	–	*0.69 (4.17)*	–
Thomisidae: *Xysticus sp.*	0.69 (4.17)	–	–	–
Salticidae	4.17 (25.00)	–	0.69 (4.17)	–
Heliophanus sp.	–	–	*0.69 (4.17)*	–
juvenile / indet.	*4.17 (25.00)*	–	–	–
OPILIONES: Phalangiidae	**–**	**–**	**0.69 (4.17)**	**–**
PSEUDOSCORPIONES: Neobisiidae	**–**	**–**	**26.39 (48.53)**	**4.86 (15.61)**
Neobisium carcinoides (Herrmann, 1804)	–	–	*2.08 (9.21)*	–
Neobisium sp.	–	–	*13.19 (44.92)*	*4.86 (15.61)*

(part 2/4)	Dry Pasture (P)	Hay Meadow (H)	Larch Forest (L)	Spruce Forest (S)
COLEOPTERA	**90.28 (70.53)**	**147.92 (105.28)**	**164.58 (156.22)**	**121.53 (106.26)**
Carabidae	9.72 (16.12)	20.83 (26.39)	15.28 (34.47)	4.17 (12.68)
Amara aenea (DEGEER, 1774)	*2.08 (7.01)*	*1.39 (8.33)*	–	–
Amara curta DEJEAN, 1828	–	–	*1.39 (5.81)*	–
Amara infima (DUFTSCHMID, 1812) ***	*0.69 (4.17)*	–	–	–
Amara montivaga STURM, 1825	–	*0.69 (4.17)*	–	–
Badister bullatus (SCHRANK, 1798)	*0.69 (4.17)*	–	–	–
Bembidion lampros (HERBST, 1784)	–	*2.08 (7.01)*	–	–
Bradycellus caucasicus (CHAUDOIR, 1846)	–	–	*3.47 (20.83)*	–
Calathus fuscipes (GOEZE, 1777)	–	–	*0.69 (4.17)*	*0.69 (4.17)*
Calathus melanocephalus (LINNAEUS, 1758)	–	–	*4.86 (15.61)*	–
Clivina fossor (LINNAEUS, 1758)	–	*4.86 (13.12)*	–	–
Dyschirius globosus (HERBST, 1784)	–	*7.64 (18.73)*	–	–
Harpalus rubripes (DUFTSCHMID, 1812)	*0.69 (4.17)*	–	–	–
Notiophilus biguttatus (FABRICIUS, 1779)	–	–	–	*2.08 (9.21)*
Pterostichus strenuus (PANZER, 1796)	–	*4.17 (11.18)*	*1.39 (5.81)*	–
Pterostichus unctulatus (DUFTSCHMID, 1812)	–	–	*2.08 (7.01)*	–
Syntomus truncatellus (LINNAEUS, 1760)	*5.56 (12.12)*	–	*0.69 (4.17)*	–
Hydrophilidae	–	4.17 (11.18)	1.39 (5.81)	0.69 (4.17)
Cryptopleurum minutum (FABRICIUS, 1775)	–	–	–	*0.69 (4.17)*
Megasternum concinnum (MARSHAM, 1802)	–	*4.17 (11.18)*	*1.39 (5.81)*	–
Ptiliidae	–	0.69 (4.17)	34.03 (131.50)	–
Acrotrichis sp.	–	*0.69 (4.17)*	*30.56 (113.09)*	–
Pteryx suturalis (HEER, 1841)	–	–	*3.47 (20.83)*	–
Leiodidae	–	–	2.08 (9.21)	1.39 (8.33)
Agathidium dentatum MULSANT & REY, 1861	–	–	–	*1.39 (8.33)*
Agathidium laevigatum ERICHSON, 1845	–	–	*1.39 (5.81)*	–
Agathidium varians BECK, 1817	–	–	*0.69 (4.17)*	–
Elateridae: *Dalopius marginatus* (LINNAEUS, 1758)	–	–	0.69 (4.17)	–
Byrrhidae: *Byrrhus fasciatus* FORSTER, 1771	–	–	–	0.69 (4.17)
Cryptophagidae: *Atomaria analis* ERICHSON, 1846	–	11.81 (34.58)	–	–
Latridiidae: *Dienerella vincenti* JOHNSON, 2007	–	–	–	0.69 (4.17)
Tenebrionidae: *Nalassus convexus* (KÜSTER, 1850)	–	–	–	0.69 (4.17)
Scarabaeidae	9.72 (30.05)	0.69 (4.17)	–	–
Aphodius abdominalis BONELLI, 1812	–	–	–	–
Diastictus vulneratus (STURM, 1805)	*9.72 (30.05)*	–	–	–
Onthophagus fracticornis (PREYSSLER, 1790)	–	–	–	–
Phyllopertha horticola (LINNAEUS, 1758)	–	*0.69 (4.17)*	–	–
Chrysomelidae	1.39 (8.33)	1.39 (8.33)	–	–
Longitarsus luridus (SCOPOLI, 1763)	*0.69 (4.17)*	–	–	–
Longitarsus pratensis (PANZER, 1794)	*0.69 (4.17)*	–	–	–
Neocrepidodera sp.	–	*1.39 (8.33)*	–	–
Apionidae	–	4.17 (9.45)	–	–
Apion cruentatum WALTON, 1844	–	*0.69 (4.17)*	–	–
Catapion seniculus (KIRBY, 1808)	–	*0.69 (4.17)*	–	–
Ischnopterapion virens (HERBST, 1797)	–	*1.39 (5.81)*	–	–
Protapion apricans (HERBST, 1797)	–	*0.69 (4.17)*	–	–
Protapion fulvipes (GEOFFROY, 1785)	–	*0.69 (4.17)*	–	–
Curculionidae	30.56 (31.69)	5.56 (12.12)	16.67 (26.73)	11.81 (26.38)
Brachysomus echinatus (BONSDORFF, 1785)	–	–	*0.69 (4.17)*	–
Hylastes cunicularius ERICHSON, 1836	–	–	–	*0.69 (4.17)*
Otiorhynchus carinatopunctatus (RETZIUS, 1783)	–	–	*0.69 (4.17)*	–
Otiorhynchus desertus ROSENHAUER, 1847	–	–	*0.69 (4.17)*	*1.39 (5.81)*
Otiorhynchus ovatus (LINNAEUS, 1758)	–	–	*0.69 (4.17)*	–
Otiorhynchus pauxillus ROSENHAUER, 1847	–	–	*9.72 (21.78)*	*9.03 (25.46)*
Otiorhynchus raucus (FABRICIUS, 1777)	–	–	*0.69 (4.17)*	–
Otiorhynchus subdentatus BACH, 1854	–	–	*2.08 (7.01)*	*0.69 (4.17)*
Phyllobius arborator (HERBST, 1797)	–	–	*1.39 (5.81)*	–
Rhinoncus pericarpius (LINNAEUS, 1758)	*0.69 (4.17)*	*0.69 (4.17)*	–	–
Romualdius scaber (LINNAEUS, 1758)	*14.58 (21.86)*	–	–	–
Sitona sulcifrons argutulus GYLLENHAL, 1834	*4.86 (11.68)*	*4.86 (11.68)*	–	–
Trachyphloeus heymesi HUBENTHAL, 1934	*4.86 (10.03)*	–	–	–
Trachyphloeus spinimanus GERMAR, 1824	*2.08 (9.21)*	–	–	–
Tychius picirostris (FABRICIUS & J.C., 1787)	*2.78 (13.06)*	–	–	–
Tychius squamulatus GYLLENHAL, 1835	*0.69 (4.17)*	–	–	–

(part 3/4)	Dry Pasture (P)	Hay Meadow (H)	Larch Forest (L)	Spruce Forest (S)
Staphylinidae	38.89 (44.50)	98.61 (78.59)	94.44 (81.53)	101.39 (92.96)
Acidota crenata Fabricius, 1793	–	–	*0.69 (4.17)*	–
Aleochara erythroptera Gravenhorst, 1806	–	–	*0.69 (4.17)*	–
Amischa analis (Gravenhorst, 1802)	*13.89 (26.35)*	*8.33 (19.82)*	*12.50 (37.56)*	–
Anaulacaspis nigra (Gravenhorst, 1802)	*2.78 (13.06)*	–	–	–
Anotylus rugosus (Fabricius, 1775)	–	*14.58 (22.66)*	–	–
Astenus gracialis Kraatz, 1859	*0.69 (4.17)*	–	–	–
Atheta elongatula (Gravenhorst, 1802)	–	*2.08 (9.21)*	–	–
Atheta fungi (Gravenhorst, 1806)	–	–	*8.33 (16.90)*	*18.06 (32.52)*
Atheta myrmecobia (Kraatz, 1856)	–	*0.69 (4.17)*	–	*40.97 (64.68)*
Atheta solidalis (Erichson, 1837)	–	–	*1.39 (5.81)*	–
Atheta subtilis (Scriba, 1866)	–	–	*1.39 (5.81)*	–
Atheta tibialis (Heer, 1839)	–	–	–	*3.47 (10.61)*
Bolitochara pulchra (Gravenhorst, 1806)	–	–	*1.39 (5.81)*	–
Cordalia obscura (Gravenhorst, 1802)	–	*0.69 (4.17)*	–	–
Cypha sp.	–	–	*0.69 (4.17)*	–
Drusilla canaliculata (Fabricius, 1787)	–	–	*0.69 (4.17)*	–
Gabrius appendiculatus Sharp, 1910	–	*36.11 (45.29)*	–	–
Gyrohypnus angustatus (Stephens, 1833)	–	*3.47 (8.77)*	–	–
Ischnosoma longicorne (Mäklin, 1847)	–	–	*1.39 (5.81)*	–
Liogluta alpestris (Heer, 1839)	–	*2.08 (9.21)*	*3.47 (14.82)*	–
Liogluta micans (Mulsant & Rey, 1852)	–	–	–	*9.03 (19.04)*
Liogluta sp.	–	*0.69 (4.17)*	*0.69 (4.17)*	–
Ocalea badia Erichson, 1837	–	–	*0.69 (4.17)*	–
Othius angustus Stephens, 1833	–	–	*5.56 (14.77)*	*1.39 (8.33)*
Othius lapidicola Märkel & Kiesenwetter, 1848	–	–	–	*2.08 (7.01)*
Othius punctulatus (Goeze, 1777)	–	–	*4.17 (9.45)*	*0.69 (4.17)*
Oxypoda annularis (Mannerheim, 1830)	–	–	*22.92 (40.70)*	*9.72 (16.12)*
Oxypoda brevicornis (Stephens, 1832)	–	–	–	*1.39 (8.33)*
Oxypoda haemorrhoa Mannerheim, 1830	–	*0.69 (4.17)*	–	–
Oxypoda islandica Kraatz, 1857	–	–	*4.86 (14.42)*	*2.08 (9.21)*
Oxypoda togata Erichson, 1837	*0.69 (4.17)*	–	–	–
Oxypoda sp.	–	–	*1.39 (8.33)*	*2.08 (12.50)*
Philonthus carbonarius (Gravenhorst, 1802)	–	*0.69 (4.17)*	*2.08 (12.50)*	–
Philonthus cognatus Sharp, 1876	–	*0.69 (4.17)*	–	–
Philonthus laminatus (Creutzer, 1799)	–	*0.69 (4.17)*	*0.69 (4.17)*	–
Philonthus lepidus (Gravenhorst, 1802)	*6.94 (15.37)*	–	–	–
Philonthus tenuicornis Mulsant & Rey, 1853	–	–	–	*0.69 (4.17)*
Philonthus sanguinolentus (Gravenhorst, 1802)	–	–	*0.69 (4.17)*	–
Quedius fuliginosus (Gravenhorst, 1802)	–	–	*0.69 (4.17)*	–
Quedius paradisianus (Heer, 1839)	–	–	*0.69 (4.17)*	*2.08 (9.21)*
Sepedophilus nigripennis (Stephens, 1832)	–	–	*4.17 (15.24)*	–
Sepedophilus sp.	–	–	*0.69 (4.17)*	–
Stenichnus collaris (Müller & Kunze, 1822)	–	–	*1.39 (5.81)*	–
Stenus clavicornis Gravenhorst, 1802	–	*2.08 (7.01)*	–	–
Stenus nanus Stephens, 1833	–	*6.94 (14.16)*	–	–
Tachinus corticinus Gravenhorst, 1802	–	–	*2.08 (12.50)*	–
Tachinus rufipes Linnaeus, 1758	–	*1.39 (5.81)*	–	*3.47 (13.57)*
Tachinus laticollis Gravenhorst, 1802	–	*1.39 (8.33)*	*4.17 (12.68)*	–
Tachyporus dispar (Paykull, 1789)	–	*5.56 (13.51)*	*2.08 (9.21)*	–
Tachyporus nitidulus (Fabricius, 1781)	–	*0.69 (4.17)*	*0.69 (4.17)*	–
Tachyporus scitulus Erichson, 1839	*5.56 (12.12)*	*5.56 (13.51)*	–	–
Tachyporus sp.	*1.39 (5.81)*	*1.39 (5.81)*	–	–
Tinotus morion (Gravenhorst, 1802)	–	*0.69 (4.17)*	–	–
Xantholinus laevigatus Jacobsen, 1849	–	–	–	*2.78 (7.97)*
Xantholinus linearis (Olivier, 1794)	*6.94 (16.49)*	–	–	–
Xantholinus tricolor (Fabricius, 1787)	–	–	–	*0.69 (4.17)*
Xantholinus sp.	–	*0.69 (4.17)*	*0.69 (4.17)*	–

(part 4/4)	Dry Pasture (P)	Hay Meadow (H)	Larch Forest (L)	Spruce Forest (S)
COLEOPTERA larvae	**119.44 (227.10)**	**161.11 (153.81)**	**279.86 (262.87)**	**237.50 (242.94)**
Carabidae larvae	2.08 (7.01)	6.94 (22.84)	11.81 (46.48)	11.11 (31.31)
Staphylinidae larvae	37.50 (54.94)	102.78 (136.90)	62.50 (62.54)	67.36 (119.94)
Cantharidae larvae	1.39 (5.81)	10.42 (16.23)	140.28 (174.98)	102.08 (147.16)
Melyridae larvae	3.47 (13.57)	4.17 (18.42)	15.97 (52.49)	6.94 (21.22)
Elateridae larvae	1.39 (5.81)	7.64 (16.71)	13.89 (46.46)	33.33 (81.72)
Coccinellidae larvae	2.78 (9.96)	2.78 (13.06)	10.42 (30.69)	–
Anobiidae larvae	0.69 (4.17)	–	–	–
Tenebrionidae larvae	57.64 (198.01)	–	5.56 (33.33)	12.50 (26.39)
Scarabaeidae larvae	1.39 (5.81)	1.39 (8.33)	0.69 (4.17)	–
Chrysomelidae larvae	2.78 (9.96)	–	0.69 (4.17)	2.08 (9.21)
Curculionidae larvae	8.33 (26.05)	25.00 (47.43)	18.06 (51.62)	2.08 (9.21)
HETEROPTERA	**27.08 (32.39)**	**–**	**4.17 (21.13)**	**0.69 (4.17)**
Pentatomidae	0.69 (4.17)	–	1.39 (8.33)	–
Sciocoris cursitans (FABRICIUS, 1794)	*0.69 (4.17)*	–	–	–
Sciocoris umbrinus (WOLFF, 1804)	–	–	*1.39 (8.33)*	–
Scutelleridae: *Odontoscelis lineola* RAMBUR, 1839	0.69 (4.17)	–	–	–
Berytidae: *Berytinus signoreti* (FIEBER & F.X., 1859)	0.69 (4.17)	–	–	–
Rhyparochromidae	4.17 (11.18)	–	2.78 (13.06)	–
Megalonotus chiragra (FABRICIUS & J.C., 1794)	*2.78 (9.96)*	–	–	–
Plinthisus pusillus (SCHOLTZ, 1847)	*1.39 (5.81)*	–	*2.78 (13.06)*	–
Tingidae	20.83 (30.18)	–	–	0.69 (4.17)
Acalypta marginata (WOLFF, 1804)	*9.72 (17.19)*	–	–	*0.69 (4.17)*
Lasciacantha capucina (GERMAR, 1836)	*11.11 (28.31)*	–	–	–
NEMATOCERA larvae	**52.78 (76.25)**	**386.11 (389.07)**	**156.94 (216.76)**	**254.17 (1151.0)**
Chironomidae larvae	20.14 (54.71)	31.25 (67.71)	1.39 (5.81)	2.08 (9.21)
Sciaridae larvae	7.64 (15.61)	15.97 (47.87)	38.19 (158.73)	6.25 (10.98)
Cecidomyiidae larvae	22.92 (32.39)	273.61 (340.90)	87.50 (132.76)	25.69 (63.66)
Ceratopogonidae larvae	–	41.67 (123.35)	5.56 (25.43)	–
Scatopsidae larvae	–	5.56 (33.33)	12.50 (43.71)	–
Bibionidae larvae	1.39 (5.81)	7.64 (31.52)	4.86 (18.73)	207.64 (1156.9)
Psychodidae larvae	–	–	1.39 (8.33)	–
Tipulidae larvae	0.69 (4.17)	10.42 (31.27)	5.56 (13.51)	12.50 (26.39)
BRACHYCERA larvae	**29.86 (30.95)**	**361.11 (295.53)**	**45.83 (69.31)**	**32.64 (33.71)**
Stratiomyiidae larvae	4.17 (12.68)	68.06 (216.35)	4.17 (11.18)	0.69 (4.17)
Drosophilidae larvae	–	1.39 (8.33)	–	–
Dolichopodidae larvae	5.56 (10.54)	59.72 (119.41)	7.64 (27.92)	4.86 (11.68)
Empididae larvae	0.69 (4.17)	9.03 (27.49)	11.81 (22.75)	13.19 (21.12)
Rhagionidae larvae	–	4.86 (25.23)	5.56 (18.04)	–
Anthomyiidae larvae	4.17 (17.42)	2.78 (11.62)	–	2.08 (7.01)
Scenopinidae larvae	–	–	0.69 (4.17)	1.39 (5.81)
Therevidae larvae	1.39 (5.81)	–	–	2.78 (7.97)
Tabanidae larvae	0.69 (4.17)	204.86 (143.90)	0.69 (4.17)	–
Heleomyzidae larvae	9.03 (14.82)	8.33 (30.47)	2.78 (9.96)	–
Fanniidae larvae	2.08 (9.21)	2.08 (9.21)	0.69 (4.17)	–
Asilidae larvae	1.39 (5.81)	–	2.08 (12.50)	6.94 (16.49)
Gastrophelidae larvae	0.69 (4.17)	–	–	–
Sciomyzidae larvae	–	–	8.33 (50.00)	–
Ulidiidae larvae	–	–	1.39 (8.33)	0.69 (4.17)
CHILOPODA	**13.19 (29.57)**	**25.00 (70.96)**	**56.25 (75.45)**	**42.36 (92.16)**
Geophilidae	13.19 (29.57)	25.00 (70.96)	9.03 (19.96)	6.94 (33.60)
Lithobiidae	–	–	47.22 (69.89)	35.42 (88.72)
DIPLOPODA	**–**	**1.39 (5.81)**	**77.08 (102.53)**	**47.22 (96.69)**
Polyxenidae: *Polyxenus sp.*	–	–	13.19 (71.08)	12.50 (53.62)
Glomeridae	–	–	22.22 (35.24)	–
Glomeris hexasticha BRANDT, 1833	–	–	*16.67 (27.39)*	–
Glomeris sp.	–	–	*5.56 (20.80)*	–
Julidae	–	1.39 (5.81)	40.28 (74.47)	34.72 (73.50)
Cylindroiulus fulviceps (LATZEL, 1884)	–	–	*0.69 (4.17)*	–
Cylindroiulus meinerti (VERHOEFF, 1891)	–	–	*10.42 (50.49)*	*11.11 (42.45)*
Enantiulus nanus (LATZEL, 1884)	–	–	*4.17 (9.45)*	*6.25 (15.09)*
Leptoiulus sp.	–	*0.69 (4.17)*	*7.64 (23.01)*	*10.42 (42.83)*
juvenile / indet.	–	*0.69 (4.17)*	*17.36 (35.26)*	*6.94 (37.61)*
Chordeumatidae	–	–	1.39 (8.33)	–
SYMPHYLA	**161.81 (276.68)**	**22.92 (56.81)**	**202.08 (304.28)**	**38.89 (110.91)**

APPENDIX S4 Seasonal development of mean abundances as individuals per m² of 6 soil macroinvertebrate groups from 4 alpine habitat types. Soil animals were extracted from soil monoliths. $n = 9$.