

Table 4. Summary of data used in the analysis: measurement temperature (T_m), index of microhabitat oxygen availability (O_2), body mass (M), discontinuous gas-exchange cycle (DGC) duration, rate of CO_2 production (VCO_2), capture latitude and longitude, habitat precipitation (P), and habitat ambient temperature (T_a)

Species	T_m , °C	O_2	M , mg	DGC, s	VCO_2 , ml·h ⁻¹	Latitude, °	Longitude, °	P , mm·mo ⁻¹	T_a , °C	Reference No.
Blattodea										
Blaberidae										
<i>Perisphaeria</i> sp.	20	3	314.8	1565.4	0.0207	-33.6	18.5	60.7	16.4	1
Unknown sp.	20	3	2540	633.3	0.0910	-32.1	19.2	52.8	15.3	2
Coleoptera										
Carabidae										
<i>Carenum</i> sp.	25	2	4240	928.8	0.348	-24.4	139.5	17.3	23.4	3
<i>Carenum</i> sp.	20	2	4610	1785.7	0.294	-24.4	139.5	17.3	23.4	3
<i>Carenum</i> sp.	30	2	4390	467.3	0.507	-24.4	139.5	17.3	23.4	3
<i>Carenum</i> sp.	35	2	3430	346.0	0.602	-24.4	139.5	17.3	23.4	3
<i>Cerotalis</i> sp.	25	2	562	712.2	0.068	-24.4	139.5	17.3	23.4	3
<i>Cerotalis</i> sp.	20	2	606.8	1587.3	0.0472	-24.4	139.5	17.3	23.4	3
<i>Cerotalis</i> sp.	30	2	552.3	473.9	0.0694	-24.4	139.5	17.3	23.4	3
<i>Cerotalis</i> sp.	35	2	559.6	367.6	0.0834	-24.4	139.5	17.3	23.4	3
<i>Cerotalis</i> sp.	40	2	557.8	204.1	0.117	-24.4	139.5	17.3	23.4	3
Scarabaeidae										
<i>Aphodius fossor</i>	15	0	121.3	999.4	0.0200	55.6	12.2	47.7	8.0	4
<i>Circellium bacchus</i>	23	2	7410	4176.0	0.321	-33.2	25.4	25.6	18.0	5
<i>Cyclocephala colasi</i>	20.4	3	240.2	607.1	0.0454	5.3	-52.8	272.6	25.7	6
<i>Cyclocephala colasi</i>	25.2	3	248.6	416.8	0.0648	5.3	-52.8	272.6	25.7	6
<i>Cyclocephala colasi</i>	30.1	3	254.0	382.8	0.0976	5.3	-52.8	272.6	25.7	6
<i>Cyclocephala colasi</i>	34.9	3	296.3	224.1	0.159	5.3	-52.8	272.6	25.7	6
<i>Scarabaeus galenus</i>	24	2	1681	1694.0	0.123	-25.4	31.8	48.8	21.7	7 and 8
<i>Scarabaeus galenus</i>	16	2	1256	7228.0	0.0319	-25.4	31.8	48.8	21.7	8

Species	T_m , °C	O ₂	M , mg	DGC, s	VCO ₂ , ml·h ⁻¹	Latitude, °	Longitude, °	P , mm·mo ⁻¹	T_a , °C	Reference No.
<i>Scarabaeus galenus</i>	20	2	1596	2689.0	0.0744	-25.4	31.8	48.8	21.7	8
<i>Scarabaeus galenus</i>	28	2	1398	2777.0	0.108	-25.4	31.8	48.8	21.7	8
<i>Scarabaeus galenus</i>	32	2	1406	3203.0	0.146	-25.4	31.8	48.8	21.7	8
<i>Scarabaeus gariepinus</i>	24	2	1130	6207.0	0.0372	-29.6	17.3	10.6	15.9	7 and 8
<i>Scarabaeus gariepinus</i>	16	2	1186	8110.0	0.0180	-29.6	17.3	10.6	15.9	8
<i>Scarabaeus gariepinus</i>	20	2	1158	9243.0	0.0241	-29.6	17.3	10.6	15.9	8
<i>Scarabaeus gariepinus</i>	28	2	1097	3038.0	0.0527	-29.6	17.3	10.6	15.9	8
<i>Scarabaeus gariepinus</i>	32	2	1055	2027.0	0.0733	-29.6	17.3	10.6	15.9	8
<i>Scarabaeus rusticus</i>	24	2	1061	3421.0	0.0906	-25.6	27.2	51.4	17.7	7 and 8
<i>Scarabaeus rusticus</i>	16	2	1057	6556.0	0.0368	-25.6	27.2	51.4	17.7	8
<i>Scarabaeus rusticus</i>	20	2	1050	5186.0	0.0581	-25.6	27.2	51.4	17.7	8
<i>Scarabaeus rusticus</i>	28	2	1081	2542.0	0.1379	-25.6	27.2	51.4	17.7	8
<i>Scarabaeus rusticus</i>	32	2	1073	1565.0	0.1807	-25.6	27.2	51.4	17.7	8
<i>Scarabaeus striatum</i>	20	2	753	3841.0	0.0322	-29.8	17.4	10.6	15.9	7 and 8
<i>Scarabaeus striatum</i>	16	2	885	6340.0	0.0167	-29.8	17.4	10.6	15.9	8
<i>Scarabaeus striatum</i>	20	2	753	3841.0	0.0322	-29.8	17.4	10.6	15.9	8
<i>Scarabaeus striatum</i>	28	2	684	1459.0	0.0484	-29.8	17.4	10.6	15.9	8
<i>Scarabaeus westwoodi</i>	24	2	1758	2270.0	0.169	-29.6	29.4	67.7	12.4	7 and 8
<i>Scarabaeus westwoodi</i>	16	2	1905	4919.0	0.0865	-29.6	29.4	67.7	12.4	8
<i>Scarabaeus westwoodi</i>	20	2	1741	3864.0	0.116	-29.6	29.4	67.7	12.4	8
<i>Scarabaeus westwoodi</i>	28	2	1689	1715.0	0.233	-29.6	29.4	67.7	12.4	8
<i>Scarabaeus westwoodi</i>	32	2	1890	1311.0	0.320	-29.6	29.4	67.7	12.4	8
Tenebrionidae										
<i>Cardiosis faimarei</i>	30	2	32	370.4	0.00600	-23.6	15.0	7.9	16.0	9
<i>Epiphysa arenicola</i>	30	2	1237	344.8	0.0951	-23.6	15.0	7.9	16.0	9
<i>Onymacris laeviceps</i>	30	2	525	333.3	0.0867	-23.6	15.0	7.9	16.0	9
<i>Onymacris plana</i>	30	2	767	270.3	0.188	-23.6	15.0	7.9	16.0	9

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<i>Onymacris rugatipennis a.</i>	30	2	573	303.0	0.117	-23.6	15.0	7.9	16.0	9
<i>Onymacris rugatipennis r.</i>	30	2	496	370.4	0.0904	-23.6	15.0	7.9	16.0	9
<i>Onymacris unguicularis</i>	25	2	737	1602.0	0.0221	-23.6	15.0	7.9	16.0	10
<i>Onymacris unguicularis</i>	30	2	585	312.5	0.127	-23.6	15.0	7.9	16.0	9
<i>Physadesmia globosa</i>	30	2	516	153.8	0.1215	-23.6	15.0	7.9	16.0	9
<i>Pimelia canescens</i>	25	3	312	878.4	0.0360	30.6	34.8	16.8	19.3	11
<i>Pimelia grandis</i>	25	3	1617	846.0	0.335	30.6	34.8	16.8	19.3	12
<i>Psammodes striatus</i>	20	2	2800	882.4	0.364	-32.3	18.4	24.4	16.5	13
<i>Stenocara gracilipes</i>	30	2	268	243.9	0.0965	-23.6	15.0	7.9	16.0	9
<i>Zophosis complanata</i>	25	3	112	676.2	0.0200	30.6	34.8	16.8	19.3	11
<i>Zophosis orbicularis</i>	30	2	103	250.0	0.0246	-23.6	15.0	7.9	16.0	9
<i>Zophosis punctata</i>	25	3	70	621.0	0.0140	30.6	34.8	16.8	19.3	11
Trogidae										
<i>Omorgus radula</i>	25	2	207	2379.0	0.0153	-24.6	31.3	62.4	20.4	14
Hymenoptera										
Formicidae										
<i>Camponotus detritus</i>	30	1	40.9	304.9	0.0101	-23.6	15.0	7.9	16.0	15
<i>Camponotus maculatus</i>	25	1	10.1	152.4	0.00196	-26.3	28.0	54.4	16.1	16
<i>Camponotus vicinus</i>	15	1	57	442.5	0.00508	33.8	-117.0	16.9	12.3	17
<i>Camponotus vicinus</i>	20	1	57	218.1	0.00688	33.8	-117.0	16.9	12.3	17
<i>Camponotus vicinus</i>	25	1	57	128.2	0.00932	33.8	-117.0	16.9	12.3	17
<i>Camponotus vicinus</i>	30	1	57	82.7	0.0126	33.8	-117.0	16.9	12.3	17
<i>Camponotus vicinus</i>	35	1	57	44.2	0.0171	33.8	-117.0	16.9	12.3	17

Species	T_m , °C	O ₂	M , mg	DGC, s	VCO ₂ , ml·h ⁻¹	Latitude, °	Longitude, °	P , mm·mo ⁻¹	T_a , °C	Reference No.
<i>Cataglyphis bicolor</i>	25	1	34	523.0	0.00560	34.5	10.5	16.9	19.2	18
<i>Cataglyphis bicolor</i>	25	1	34	657.0	0.00590	34.5	10.5	16.9	19.2	19
<i>Messor julianus</i> <i>alates/workers</i>	24	1	5.09	102.8	0.00099 0	29.5	-114.4	9.3	18.4	20
<i>Pogonomyrmex</i> <i>californicus</i>	25	1	5.92	359.7	0.00165	37.4	-118.4	15.5	7.7	21
<i>Pogonomyrmex</i> <i>occidentalis</i>	25	1	7.96	154.3	0.00227	39.2	-111.0	19.2	5.6	21
<i>Pogonomyrmex</i> <i>rugosus</i>	25	1	14.3	212.8	0.00490	37.1	-113.6	18.3	10.6	21
<i>Pogonomyrmex</i> <i>rugosus</i>	25	1	32.2	934.6	0.00512	33.5	-112.0	13.3	20.0	22
Mutillidae <i>Dasymutilla gloriosa</i>	30	2	76.45	176.4	0.0390	35.4	-115.6	12.8	17.1	23
Lepidoptera Lasiocampidae <i>Gonometa postica P</i>	20	3	4367.5	9353.4	0.0313	-24.4	22.8	26.3	20.4	24
Orthoptera Acrididae <i>Romalea guttata</i>	25	3	2921	1494.0	0.388	26.4	-81.4	116.3	24.0	25
Ramoleidae <i>Taeniopoda eques</i>	15	3	2300	2736.0	0.134	31.9	-109.1	11.9	16.1	26

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