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Supplement of

Factors controlling shell carbon isotopic composition of land snail *Acusta despecta sieboldiana* estimated from laboratory culturing experiment

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Supplement

Table S1. Stable Isotope Results of Snails Cultured Under Different Conditions and the Estimated Contributions of Their Shell Carbon Sources*.

Snail No.	Temp. (°C)	CaCO ₃	Diet	Diet $\delta^{13}\text{C}$ (‰)	Shell $\delta^{13}\text{C}$ (‰)	Tissue $\delta^{13}\text{C}$ (‰)	x (%)	y (%)	z (%)	Shell weight proportion (%)
S1	20	+	Cabbage	-28.4	-9.6	-28.4	72.2	16.8	11.0	30.1
S2	20	+	Cabbage	-28.4	-9.1	-28.6	70.4	16.4	13.3	28.3
S9	20	+	Cabbage	-28.4	-9.1	-28.5	70.6	16.4	13.0	29.7
S10	20	+	Cabbage	-28.4	-9.7	-28.8	71.7	16.7	11.6	27.0
S11	20	+	Cabbage	-28.4	-9.7	-27.6	74.3	17.3	8.5	32.7
S12	20	+	Cabbage	-28.4	-9.5	-27.9	73.0	17.0	10.1	25.4
S5	20	+	Cabbage	-28.4	-9.5	-27.7	73.4	17.1	9.5	25.9
S6	20	+	Cabbage	-28.4	-9.8	-27.4	75.0	17.4	7.6	26.4
S13	20	+	Cabbage	-28.4	-9.4	-28.1	72.4	16.8	10.8	28.2
S14	20	+	Cabbage	-28.4	-10.2	-27.7	75.5	17.5	7.0	23.6
S15	20	+	Cabbage	-28.4	-11.0	-26.9	79.7	18.5	1.8	24.8
S3	20	-	Cabbage	-28.4	-13.1	-29.4	79.1	20.9	0.0	4.6
S7	20	-	Cabbage	-28.4	-12.3	-27.7	82.4	17.6	0.0	10.1
S8	20	-	Cabbage	-28.4	-12.3	-27.8	82.0	18.0	0.0	8.8
S16	20	+	Corn	-12.0	4.2	-10.3	67.4	15.7	16.9	34.4
S17	20	+	Corn	-12.0	4.0	-11.6	63.6	14.8	21.6	34.9
S18	20	+	Corn	-12.0	3.3	-10.5	72.5	16.9	10.6	-
S19	25	+	Cabbage	-28.4	-9.7	-27.5	74.5	12.6	12.8	33.1
S21	25	+	Cabbage	-28.4	-11.0	-27.7	77.9	13.2	8.9	31.0
S25	25	+	Cabbage	-28.4	-12.1	-28.7	79.1	13.4	7.5	19.9
S26	25	+	Cabbage	-28.4	-10.1	-27.7	75.4	12.8	11.8	34.5
S29	25	+	Cabbage	-28.4	-10.2	-27.3	76.6	13.0	10.4	37.8
S31	25	+	Cabbage	-28.4	-9.8	-27.0	76.1	12.9	11.0	30.2
S33	25	+	Cabbage	-28.4	-9.9	-26.5	77.6	13.1	9.3	9.7
S22	25	-	Cabbage	-28.4	-14.9	-28.5	89.6	10.4	0.0	4.3
S23	25	-	Cabbage	-28.4	-13.7	-27.5	88.0	12.0	0.0	5.9
S27	25	-	Cabbage	-28.4	-13.6	-28.5	82.5	17.5	0.0	5.1
S28	25	-	Cabbage	-28.4	-13.4	-27.9	84.3	15.7	0.0	4.2
S32	25	-	Cabbage	-28.4	-13.0	-27.7	83.2	16.8	0.0	8.7
S34	30	+	Cabbage	-28.4	-13.7	-28.0	83.3	15.4	1.2	13.8
S35	30	+	Cabbage	-28.4	-13.5	-27.2	84.7	15.7	0.0	18.2
S36	30	+	Cabbage	-28.4	-13.1	-28.7	79.7	14.8	5.5	18.3
S37	30	+	Cabbage	-28.4	-13.3	-28.3	81.2	15.0	3.8	16.2
S38	30	+	Cabbage	-28.4	-13.4	-28.5	81.1	15.0	3.9	14.5
S39	30	+	Cabbage	-28.4	-11.4	-27.3	78.0	14.4	7.6	31.0
S40	30	+	Cabbage	-28.4	-13.8	-29.3	80.4	14.9	4.7	14.4

S41	30	+	Cabbage	-28.4	-13.5	-28.0	82.7	15.3	2.0	17.1
S42	30	-	Cabbage	-28.4	-14.2	-28.2	84.5	15.5	0.0	-

* Data were calculated assuming that metabolic CO₂ has already dissolved into snail body water when produced with no isotopic fractionation generated from gaseous state to aquatic state. All symbols in this table are the same as those in Table 1.

Table S2. Mass and Size Information of Each Snail Individual.

Sample	Temperature (°C)	Carbonate	Diet	Total Mass (g)	Dry Tissue (g)	Shell (g)	Length (mm)	Height (mm)	Spiral
S1	20	+	Cabbage	0.60	0.24	0.18	11.4	11.6	4.5
S2	20	+	Cabbage	0.42	0.17	0.12	10.7	9.9	4.5
S9	20	+	Cabbage	0.50	0.20	0.15	10.1	11.3	5.0
S10	20	+	Cabbage	0.48	0.18	0.13	10.3	10.8	4.5
S11	20	+	Cabbage	0.41	0.18	0.13	10.2	10.8	4.5
S12	20	+	Cabbage	0.40	0.15	0.10	10.2	9.8	4.5
S5	20	+	Cabbage	0.79	0.28	0.20	12.6	12.9	5.0
S6	20	+	Cabbage	0.66	0.24	0.18	12.0	11.6	5.0
S13	20	+	Cabbage	0.93	0.37	0.26	14.1	12.7	5.0
S14	20	+	Cabbage	0.78	0.28	0.19	14.9	13.0	5.0
S15	20	+	Cabbage	0.47	0.17	0.12	11.3	11.0	4.5
S3	20	-	Cabbage	0.42	0.09	0.02	-	-	-
S7	20	-	Cabbage	0.39	0.11	0.04	11.1	10.2	4.0
S8	20	-	Cabbage	0.33	0.08	0.03	10.2	9.7	4.0
S16	20	+	Corn	0.24	0.11	0.08	11.0	8.2	4.5
S17	20	+	Corn	0.15	0.07	0.05	7.7	6.5	3.5
S18	20	+	Corn	-	0.05	0.04	7.4	6.4	3.5
S19	25	+	Cabbage	1.39	0.63	0.46	16.4	15.5	5.5
S21	25	+	Cabbage	0.87	0.37	0.27	14.1	13.2	5.0
S25	25	+	Cabbage	1.11	0.39	0.22	16.8	15.0	5.5
S26	25	+	Cabbage	0.69	0.31	0.24	13.1	12.4	5.0
S29	25	+	Cabbage	1.05	0.49	0.40	14.0	14.0	5.0
S31	25	+	Cabbage	1.53	0.62	0.46	17.2	14.9	5.0
S33	25	+	Cabbage	0.93	0.26	0.09	15.0	14.7	5.0
S22	25	-	Cabbage	0.58	0.11	0.03	13.6	11.6	4.5
S23	25	-	Cabbage	0.42	0.08	0.03	11.5	10.8	4.5
S27	25	-	Cabbage	0.67	0.12	0.03	13.1	12.0	-
S28	25	-	Cabbage	0.38	0.06	0.02	-	-	-
S32	25	-	Cabbage	0.71	0.18	0.06	13.4	14.4	4.5
S34	30	+	Cabbage	0.61	0.16	0.08	12.9	12.6	5.5
S35	30	+	Cabbage	0.25	0.07	0.05	10.4	8.8	4.5
S36	30	+	Cabbage	0.25	0.08	0.05	9.7	8.9	4.5
S37	30	+	Cabbage	0.66	0.17	0.11	13.4	11.8	5.0
S38	30	+	Cabbage	0.53	0.15	0.08	12.4	11.0	5.0
S39	30	+	Cabbage	0.77	0.31	0.24	13.8	12.2	5.0
S40	30	+	Cabbage	0.49	0.13	0.07	11.4	10.5	4.5
S41	30	+	Cabbage	0.40	0.11	0.07	10.8	9.7	4.5
S42	30	-	Cabbage	-	-	0.01	-	-	-
S43*	25	+	Cabbage	-	-	-	10.1	9.7	4.5
S44**	-	-	-	-	-	0.29	18.2	17.0	5.5

S45**	-	-	-	0.79	0.20	0.08	15.2	13.0	4.5
S46**	-	-	-	-	-	0.06	13.8	12.5	4.5
S47**	-	-	-	-	-	0.06	13.1	11.8	-
S48**	-	-	-	-	-	0.21	14.8	13.9	5.0
S49**	-	-	-	-	-	0.08	17.0	14.9	-

* This snail has been identified as an adult individual.

** Parents of the snails from S1 to S43.