SUPPLEMENTARY MATERIAL

Decay experiments on shrimps provide insight into the fossilization potential of arthropod appendages

Nora Corthésy[1*], Gaëtan J.-M. Potin[1*], Alexandre Torchet[1], Ian Quintas[1], Yu Wu[1, 2], Sinéad Lynch[1], Allison C. Daley[1], Farid Saleh[1a]

[1]Institute of Earth Sciences, University of Lausanne, Géopolis, CH-1015 Lausanne, Switzerland

[2]State Key Laboratory of Continental Evolution and Early Life, Shaanxi Key Laboratory of Early Life and Environments, Department of Geology, Northwest University, Xi'an 710069, China

[*]Joint first authors

(a) corresponding author

Table S1. Mann-Whitney U test to compare the taphonomic scores between freshwater and saltwater. A p-value smaller than 0.05 means that the taphonomic scores are significantly different between freshwater and saltwater shrimps.

	W	*p-value*
Freshwater vs Saltwater	629842	**0.0002189**

Table S2. Contrast analysis of ordinal logistic regression to compare the taphonomic scores between the water (freshwater vs saltwater), the taphonomic characters (breaking of appendages vs detachment of appendages vs detachment of setae), and the body parts (abdomen vs head vs thorax). Significant p-values are highlighted in bold.

	Estimate	*Standard Error*	*z-ratio*	*p-value*
Breaking of appendages				
Freshwater – Saltwater	0.515	0.178	2.899	**0.0037**
Detachment of appendages				
Freshwater – Saltwater	1.684	0.357	4.713	**< 0.0001**
Detachment of setae				
Freshwater – Saltwater	10.019	53.799	0.186	0.8523
Freshwater				

Breaking of appendages – Detachment of appendages	0.889	0.133	6.703	**< 0.0001**
Breaking of appendages – Detachment of setae	2.811	0.227	12.409	**< 0.0001**
Detachment of appendages – Detachment of setae	1.922	0.232	8.293	**< 0.0001**
Saltwater				
Breaking of appendages – Detachment of appendages	2.059	0.377	5.468	**< 0.0001**
Breaking of appendages – Detachment of setae	12.315	53.799	0.229	0.9715
Detachment of appendages – Detachment of setae	10.257	53.800	0.191	0.9802