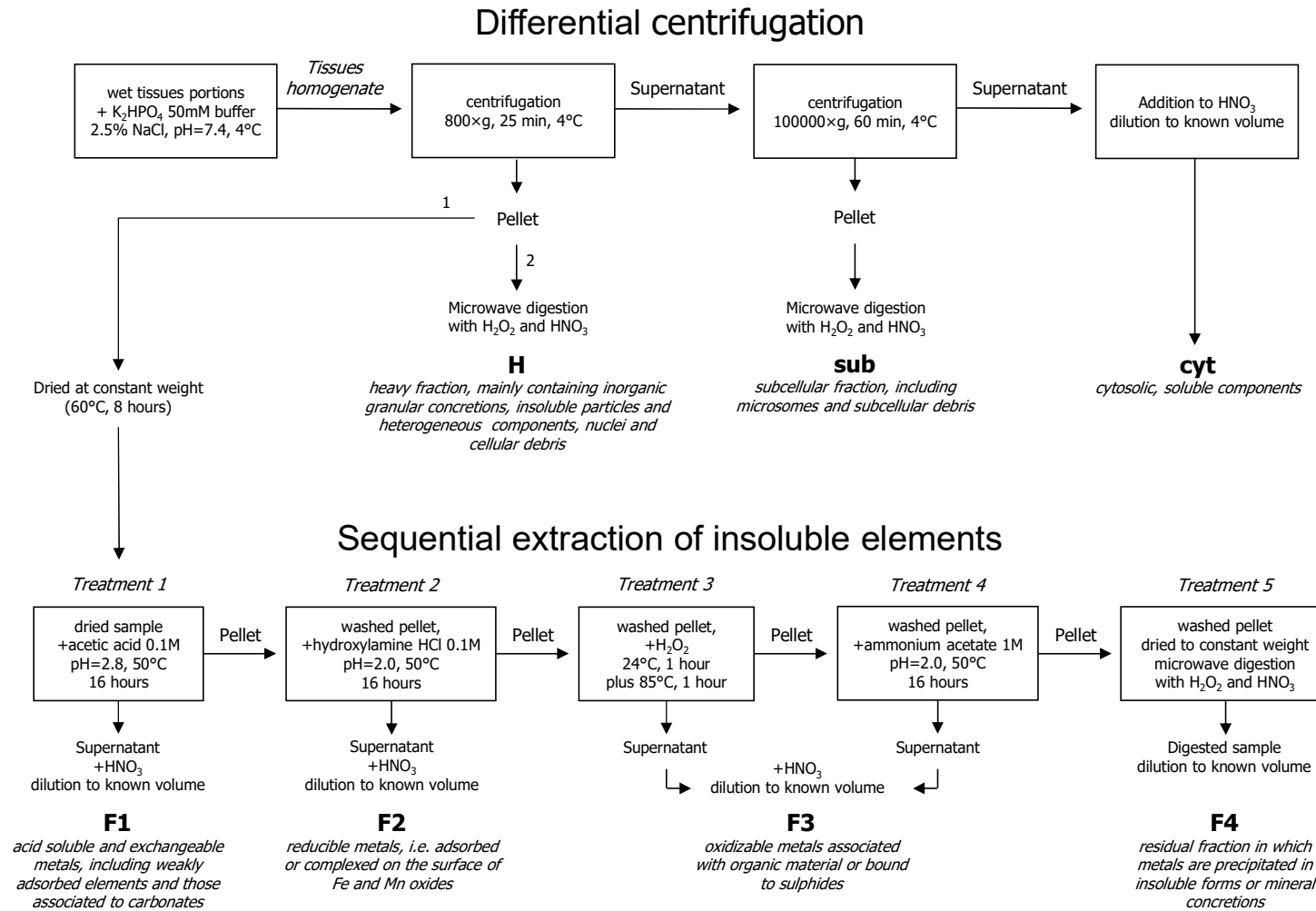


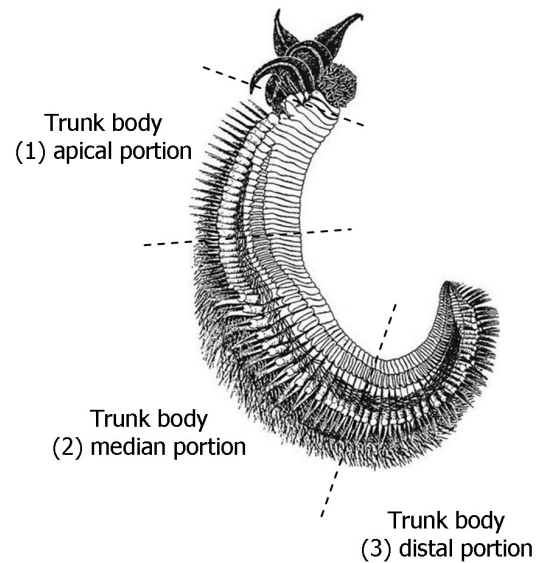
Supplementary Material

Trace elements and arsenic speciation in tissues of tube dwelling polychaetes from hydrothermal vent ecosystems (East Pacific Rise): an ecological role as antipredatory strategy? Di Carlo M., Giovannelli D., Fattorini D., Le Bris N., Vetricani C. and Regoli F.

SM1. Scheme of Differential centrifugation to obtain subcellular distribution of elements according to Fattorini and Regoli (2004) and Fattorini et al. (2010) and of Sequential extraction of insoluble elements based on slightly adapted method according to Tokalioglu et al. (2000); fractions, obtained from tissues of *Alvinella pompejana*, were H=heavy fraction, with granular concretions and insoluble particles; sub=subcellular fraction, containing microsomes and subcellular debris; cyt=cytosol and soluble components; F1=acid soluble and easily exchangeable metals; F2=reducible metals; F3=oxidizable metals; F4=metals precipitated into mineral particles, concretions or granules.

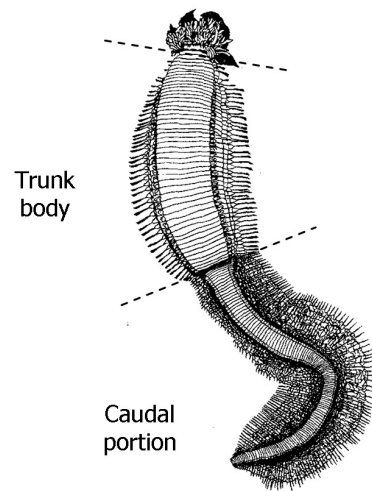


SM2. Levels of trace elements in different portions of trunk body of *Alvinella pompejana*. Concentrations are expressed as $\mu\text{g}\cdot\text{g}^{-1}$ (d.w.) (drawing image adapted from Desbruyères et al., 2006). Values did not show any statistical difference as a function of various anatomical regions, as determined by ANOVA and Student-Newnam-Keuls *post-hoc* test ($p>0.05$).



	Trunk body (1) apical portion	Trunk body (2) median portion	Trunk body (3) distal portion
Ag	0.234 ± 0.082	0.120 ± 0.064	0.221 ± 0.142
Al	52.7 ± 19.4	19.4 ± 8.9	32.0 ± 10.5
As	102 ± 80	68 ± 59	128 ± 110
Ba	1.04 ± 0.45	1.11 ± 0.66	2.17 ± 1.02
Cd	5.73 ± 3.94	4.07 ± 0.40	10.54 ± 3.23
Co	5.71 ± 2.71	4.46 ± 1.35	10.79 ± 2.78
Cr	5.10 ± 4.01	2.71 ± 2.50	4.23 ± 3.58
Cu	385 ± 217	270 ± 59	625 ± 142
Fe	13468 ± 9658	8973 ± 2245	25596 ± 7942
Hg	1.1 ± 0.5	1.0 ± 0.5	3.4 ± 2.3
Mn	22.49 ± 6.46	20.06 ± 5.40	39.83 ± 8.75
Ni	0.83 ± 0.21	0.42 ± 0.15	0.77 ± 0.42
Pb	125 ± 109.2	85 ± 53.1	88 ± 39.8
Sb	2.50 ± 0.52	1.53 ± 0.28	2.71 ± 0.60
Se	3.01 ± 1.22	2.38 ± 1.44	3.18 ± 1.47
V	3.71 ± 0.79	2.02 ± 0.87	2.73 ± 0.85
Zn	1508 ± 698	1122 ± 253	2745 ± 927

SM3. Levels of trace elements in different portions of trunk body of *Alvinella caudata*. Concentrations are expressed as $\mu\text{g}\cdot\text{g}^{-1}$ (d.w.) (drawing image adapted from Desbruyères et al., 2006). Values did not show any statistical difference between the anatomical regions, as determined by *t*-Student test ($p < 0.05$).



	Trunk body	Caudal portion
Ag	0.361 ± 0.107	0.561 ± 0.203
Al	60.8 ± 27.0	142.5 ± 61.8
As	71 ± 25	127 ± 86
Ba	0.91 ± 0.83	1.17 ± 0.27
Cd	5.87 ± 2.98	12.09 ± 3.48
Co	5.32 ± 3.98	18.28 ± 12.16
Cr	1.19 ± 0.64	3.78 ± 1.13
Cu	185 ± 132	548 ± 196
Fe	13414 ± 6392	32260 ± 15973
Hg	3.9 ± 2.6	9.1 ± 2.7
Mn	47.84 ± 21.86	36.92 ± 20.05
Ni	1.75 ± 1.29	2.67 ± 1.12
Pb	54 ± 32.2	113 ± 43.2
Sb	< 1.0	< 1.0
Se	2.21 ± 0.99	4.24 ± 1.20
V	1.78 ± 0.25	3.35 ± 0.84
Zn	2044 ± 1176	4145 ± 1989

References:

- Desbruyères, D., Segonzac, M., Bright, M. (Eds) (2006). Handbook of deep-sea hydrothermal vent fauna. Second completely revised edition. Denisia, 18; ISSN 1608-8700; Zugleich Kataloge der Oberösterreichischen Landesmuseen, N.S. 43, ISBN 10 3-85474-154-5 / ISBN 13 978-3-85474-154-1
- Fattorini, D., Notti, A., Nigro, M., Regoli, F. (2010). Hyperaccumulation of vanadium in the Antarctic polychaete *Perkinsiana littoralis* as a natural chemical defense against predation. *Environ. Sci. Pollut. Res.*, 17: 220-228. DOI: 10.1007/s11356-009-0243-0
- Fattorini, D., Regoli, F. (2004). Arsenic speciation in tissues of the Mediterranean polychaete *Sabella spallanzanii*. *Environ. Toxicol. Chem.*, 23: 1881-1887. DOI:10.1897/03-562
- Tokalioglu, Ş., Kartal, Ş., Elçi, L. (2000). Determination of heavy metals and their speciation in lake sediments by flame atomic absorption spectrometry after a four-stage sequential extraction procedure. *Analyt. Chim. Acta*, 413: 33-40. DOI:10.1016/S0003-2670(00)00726-1