The following supplement accompanies the article

Spatial and temporal heterogeneity in the distribution of an Antarctic amphipod and relationship with the sediment

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Supplement. Additional information on environmental variables used in the study and relationships with *Orchomenella franklini* abundance at Casey and Davis

Table S1. *Orchomenella franklini.* Sediment parameters used to analyse distribution

		Description
	TOC	Total organic carbon as % total sediment mass
Grain size parameters	Clay/silt	Proportion sediment grains <63 µm
	Very fine sand	Proportion sediment grains 63–125 µm
	Fine sand	Proportion sediment grains 125–250 µm
	Medium sand	Proportion sediment grains 250–500 µm
	Coarse sand	Proportion sediment grains 500–1 mm
	Very coarse sand	Proportion sediment grains 1–2 mm
	Other sediments	Proportion sediment grains >2 mm
	Mean grain size	Mean size of sediment grains, measured in µm
Trace element parameters*	Al	Aluminium
	As	Arsenic
	Ba	Barium
	Cd	Cadmium
	Co	Cobalt
	Cr	Chromium
	Cu	Copper
	Fe	Iron
	Mg	Magnesium
	Mo	Molybdenum
	Ni	Nickel
	Pb	Lead
	S	Sulphur
	Sb	Antimony
	Sn	Tin
	Sr	Strontium
	V	Vanadium
	Zn	Zinc

*All trace elements were measured as mg kg^{-1} present in the <2 mm fraction of sediment

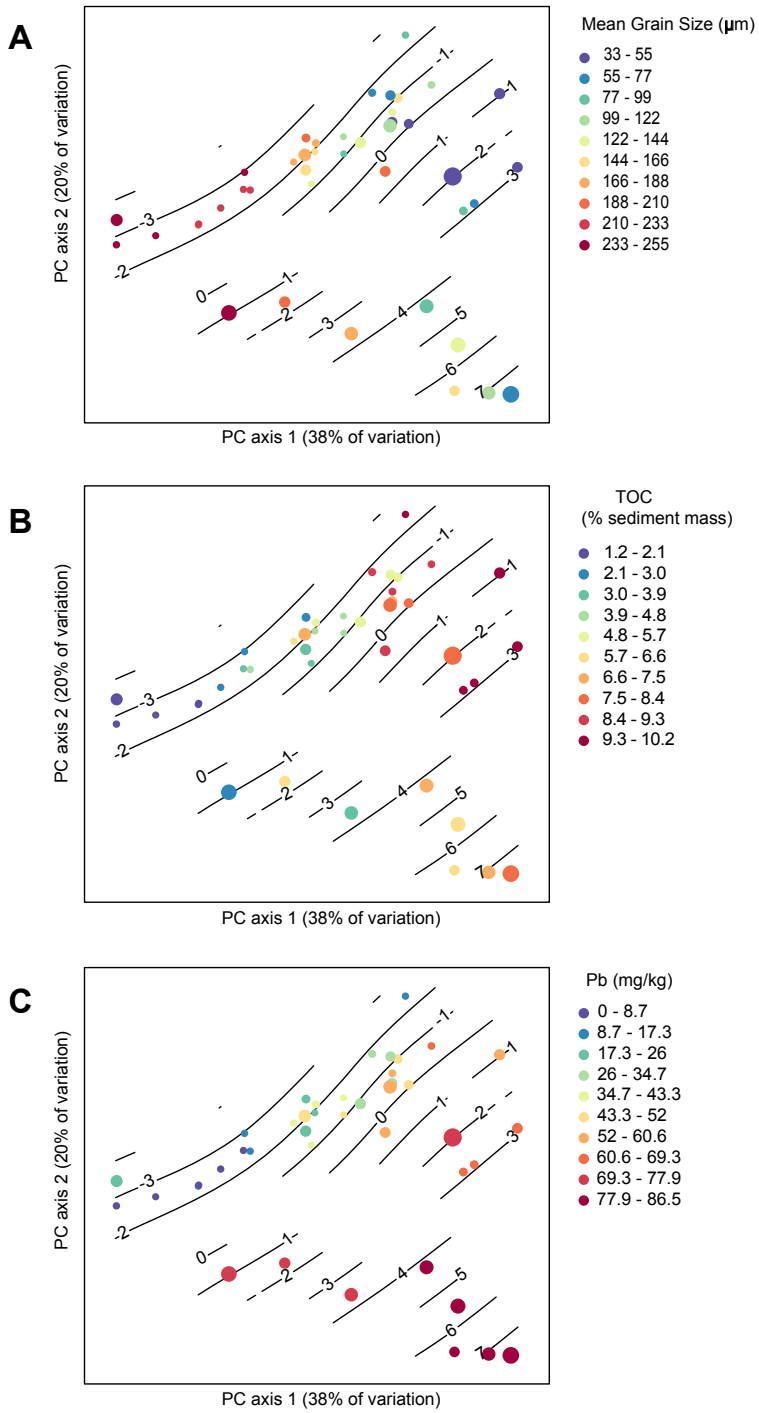

Fig. S1. Principal component analysis ordination of all sediment parameters for Casey. The first 2 principal components account for 58% of environmental variation. Points are scaled by the mean abundance of *Orchomenella franklini*, and contours represent predictions of relative abundance based on generalised additive modelling (GAM) of square-root-transformed abundance data. GAM explains 43% of the variance in abundance. Points are coloured by (a) mean grain size, (b) total organic carbon (TOC) content and (c) lead concentration (all parameters increase from cool to warm colours). Maximum abundance values are predicted for sediments with moderately high TOC and concentrations of lead in the upper ranges for the region (correlated with several other metals and TOC; see text). There is no clear correlation with grain size, although low abundances are generally predicted for the highest grain sizes. PC: principal component

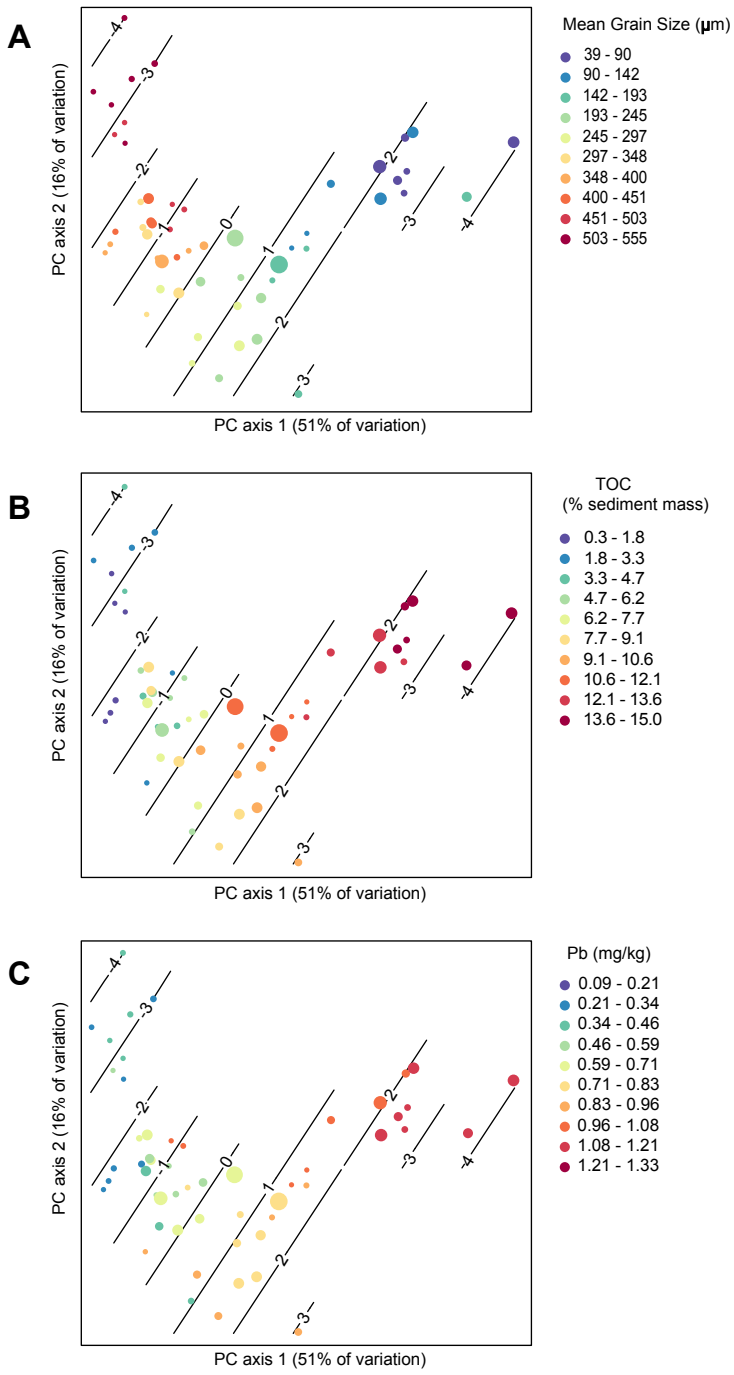

Fig. S2. Principal component analysis ordination of all sediment parameters for Davis. The first 2 principal components account for 67% of environmental variation. Points are scaled by the mean abundance of *Orchomenella franklini*, and contours represent predictions of relative abundance based on generalised additive modelling (GAM) of square-root-transformed abundance data. GAM explains 49% of the variance in abundance. Points are coloured by (a) mean grain size, (b) total organic carbon (TOC) content and (c) lead concentration (all parameters increase from cool to warm colours). Maximum abundance values are predicted for sediments with low grain sizes, moderate to high TOC and concentrations of lead in the upper ranges for the region (although given the range of lead concentration is very narrow, this likely reflects a correlation with TOC or grains size; see text). PC: principal component