This is an electronic appendix to the paper by Atkinson *et al*. 2003 Protists decrease in size linearly with temperature: *ca*. 2.5% °C^{-1}. *Proc. R. Soc. Lond.* B **270**, 2605–2611. (DOI 10.1098/rspb.2003.2538.)

Electronic appendices are refereed with the text. However, no attempt is made to impose a uniform editorial style on the electronic appendices.

Electronic appendix A

1. Data on rates of cell division were converted to natural logarithm-based specific growth rates (d^{-1}).

2. A single outlying datum (*Rhizamoeba* sp. at 5°C, Butler & Rogerson 1996) was removed from the analysis, as its deviation from the cell volume at 15°C, expressed as a fraction of the cell volume at 15°C (Fig. 2a) was 2.5 times greater than that of the point with the next largest value (co-ordinate: 2.5, -10, not included in Fig. 2).

3. To test for biases due to differing sizes of dataset, we compared results derived from unweighted data (see paper) with those in which the relative thermal sensitivity of cell volume (a/V_{15}) was weighted for each dataset by the number of points used to calculate the regression coefficient. The weighting factor = (number of datasets * number of values in dataset)/total number of values from all datasets combined. As indicated in the paper, weighting made little difference to the estimates of mean relative thermal sensitivity of cell volume (a/V_{15}).

4. The weighted mean (±se) relative thermal sensitivity of cell volume for the 65 datasets containing the 427 data points was –0.026°C^{-1} (±. 0.003). Inclusion of the outlier mentioned in 2, above, changed the weighted mean (±se) to –0.027 °C^{-1} (±. 0.004). In either case, the relationship did not deviate from linearity ($p > 0.4$).

5. Since there was rarely sufficient information to distinguish mixotrophs from other modes of nutrition (autotrophy, heterotrophy), 'trophy' was assigned according to the energy source provided in the experiment. Thus, an organism that may have been capable of mixotrophy in nature was coded as a heterotroph if it was cultured on an organic energy source.

6. Salinities indicated in the experiments were assigned to categories, thus: 0‰ – freshwater; 12 - 28‰ - brackish; 34 - 35‰ – marine.

7. **Table 1** below lists the datasets used in this study, and individual relationships between cell volume and temperature, (V_{15} is cell volume at 15°C, estimated from fitted linear regression equation; asterisk indicates estimate derived by extrapolation and therefore not used in meta-analysis; otherwise, estimates are from interpolations). Probability values are only given for significant ($p<0.05$) regressions.

Table 1

Species	Ref	CV_{15}	Regression coefficient / CV_{15}	Number of points	Sig. of regression p
AMOEBAE:					
Clydonella rosenfieldi	Butler & Rogerson 1996	410	-0.0539	4	
Dactylamoeba sp.	Butler & Rogerson 1996	2592	-0.06070	3	
Paraflabellula reniformis	Butler & Rogerson 1996	453	0.00199	4	
Platyamoeba sp.	Butler & Rogerson 1996	32	-0.056	3	
Rhizamoeba sp.	Butler & Rogerson 1996	123	-0.184	4	
Stereomyxa ramosa	Butler & Rogerson 1996	664	0.00166	3	
Vahlkampfia baltica	Butler & Rogerson 1996	334	-0.0523	4	
Vannella caledonica	Butler & Rogerson 1996	364	-0.0414	4	0.0078
Vannella sp.	Butler & Rogerson 1996	40	-0.010	4	
Acanthamoeba polyphaga Puschkarew	Baldock *et al.* 1980	1230	0.000815	3	
Cochliopodium minus Page	Baldock *et al.* 1980	3450	-0.0233	4	
Glaeseria mira Glässer	Baldock *et al.* 1980	396	0.0211	4	
Saccamoeba limax Page	Baldock *et al.* 1980	5970	-0.0131	3	
Vannella sp.	Baldock *et al.* 1980	7840	0.00329	4	
Vexillifera bacillipedes Page	Baldock *et al.* 1980	263	0.0211	3	
CILIATES:					
Vorticella microstoma Ehrenberg	Finlay 1977	21335	-0.019919	3	
Cyclidium glaucoma Müller	Finlay 1977	2430	-0.009953	3	
Tetrahymena pyriformis Ehrenberg	Finlay 1977	8524	-0.01764	3	
Chilodonella uncinata Ehrenberg	Finlay 1977	6200	0.01064	3	
Colpidium campylum Stokes	Finlay 1977	48700	-0.038472	3	
Loxocephalus plagius Stokes	Finlay 1977	32766	-0.019154	3	
Paramecium aurelia Ehrenberg	Finlay 1977	236205	0.0293266	3	
Paramecium bursaria Ehrenberg	Finlay 1977	213705	-0.0413323	3	
Stentor polymorphus Müller	Finlay 1977	1893000	0.04927	3	
Spirostomum teres Claparede and Lachmann	Finlay 1977	215476	0.002	3	
Euplotes balteatus (Dujardin)	Lee & Fenchel 1972	16100	-0.0163	4	
Strombidinopsis multiauris	Montagnes & Lessard 1999	166565	-0.0448429	6	0.0431
Urotricha farcta (Lake Schöhsee)	Weisse & Montagnes 1998	2313.35	-0.0339389	15	<0.0001
Urotricha furcata (mixed clone, Lake Schöhsee)	Weisse & Montagnes 1998	976.10	-0.016246	11	0.0004
Urotricha furcata (mixed clone, Lake Constance)	Weisse & Montagnes 1998	1533.25	-0.0622546	8	0.001
Urotricha furcata (clone A, Lake Constance)	Weisse & Montagnes 1998	1821.35	-0.0391547	8	0.0005
Urotricha furcata (clone B, Lake Constance)	Weisse & Montagnes 1998	1428.85	-0.0277248	12	0.0001
Urotricha furcata (clone C, Lake Constance)	Weisse & Montagnes 1998	1519.00	-0.0317290	12	0.0001
Tetrahymena pyriformis (HS)	James & Read 1957	14373	-0.023916	3	
DIATOMS:					
Plagiotropis sp.	Mühlig - Hofmann (unpubl.)	1688.25	-0.0106920	22	
Cylindrotheca closterium	Mühlig - Hofmann (unpubl.)	247.85	-0.017015	25	0.0099
Skeletonema costatum (Grev.) Cl.	Jørgensen 1968	169	-0.0435	4	0.0207
Phaeodactylum tricornutum Bohlin	Morris & Glover 1974	330	-0.0556	3	
Nitzschia closterium (Ehrenberg)	Morris & Glover 1974	906	-0.108	2	
Cylindrotheca closterium	Waring (unpubl.)	227.0	-0.05972	17	<0.0001
Achnanthes sp.	Waring (unpubl.)	354.6	-0.03302	17	<0.0001
Phaeodactylum tricornutum	Montagnes & Franklin 2001	77	-0.021	15	0.0172
Ditylum brightwelii	Montagnes & Franklin 2001	17440	-0.082229	12	0.0003
Skeletonema costatum	Montagnes & Franklin 2001	218	0.0275	12	

Species	Ref	CV_{15}	Regression coefficient / CV_{15}	Number of points	Sig. of regression p
Thalassiosira weissflogii	Montagnes & Franklin 2001	1362*	-0.1709*	6	
Chaetoceros simplex var. *calcitrans*	Montagnes & Franklin 2001	166	-0.0113	12	
Cyclotella cryptica	Montagnes & Franklin 2001	728	-0.0177	15	<0.0001
Coscinodiscus sp.	Montagnes & Franklin 2001	1700000	0.0221	9	
Chaetoceros sp.	Lomas & Glibert 1999	67	0.017	3	
Thalassiosira weissflogii (Grunow) Fryxell et Hasle	Lomas & Glibert 1999	1533	-0.01925	2	
Phaeodactylum tricornutum Bohlin	Kudo *et al.* 2000	137	0.0125	2	
Phaeodactylum tricornutum Bohlin	Thompson *et al*. 1992	42	0.0704	4	<0.05
Chaetoceros calcitrans	Thompson *et al*. 1992	40	0.0109	4	
Thalassiosira pseudonana	Thompson *et al*. 1992	48	0.0289	4	
Chaetoceros simplex	Thompson *et al*. 1992	59	0.0282	4	
DINOFLAGELLATES:					
Alexandrium ostenfeldii	Jensen & Moestrup 1997	22450	-0.070367	6	0.0003
Gonyaulax tamarensis Lebour	Watras & Chisholm 1982	9610	-0.0347	25	<0.0001
Gonyaulax polyedra Stein	Meeson & Sweeney 1982	57000	-0.056	2	
Ceratium furca	Meeson & Sweeney 1982	93000	-0.037	2	
Prorocentrum minimum (Pavillard) Schiller	Lomas & Glibert 1999	1468	-0.06397	3	
Gyrodinium uncatenum Hulburt	Lomas & Glibert 1999	17944	-0.038698	2	
Heterocapsa triquetra	Aelion & Chisholm 1985	1572	-0.02867	5	0.0105
Thoracosphaera heimii (Lohmann)	Karwath *et al.* 2000	1646.4*	0.011151*	7	
Gymnodinium galatheanum Braarud	Nielsen 1996	982	-0.0257	4	
FLAGELLATES:					
Dunaliella tertiolecta	Eppley & Sloan 1966	363	-0.0446	6	0.002
Dunaliella tertiolecta Butcher	Morris & Glover 1974	391	-0.0801	3	
Rhodomonas salina	Montagnes & Franklin 2001	353	-0.000651	9	
Isochrysis galbana	Montagnes & Franklin 2001	98	-0.053	12	0.0017
Paraphysomonas imperforata (Arctic)	Choi & Peters 1992	258	-0.00705	3	
Paraphysomonas imperforata (Newfoundland)	Choi & Peters 1992	184	-0.0126	3	
Pavlova lutheri	Thompson et al. 1992	38	0.0214	4	
Dunaliella tertiolecta	Thompson et al. 1992	204	-0.0060	4	
Isochrysis galbana	Thompson et al. 1992	41	0.0080	4	
Dunaliella tertiolecta Butcher	Sosik & Mitchell 1994	185	-0.0111	8	

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