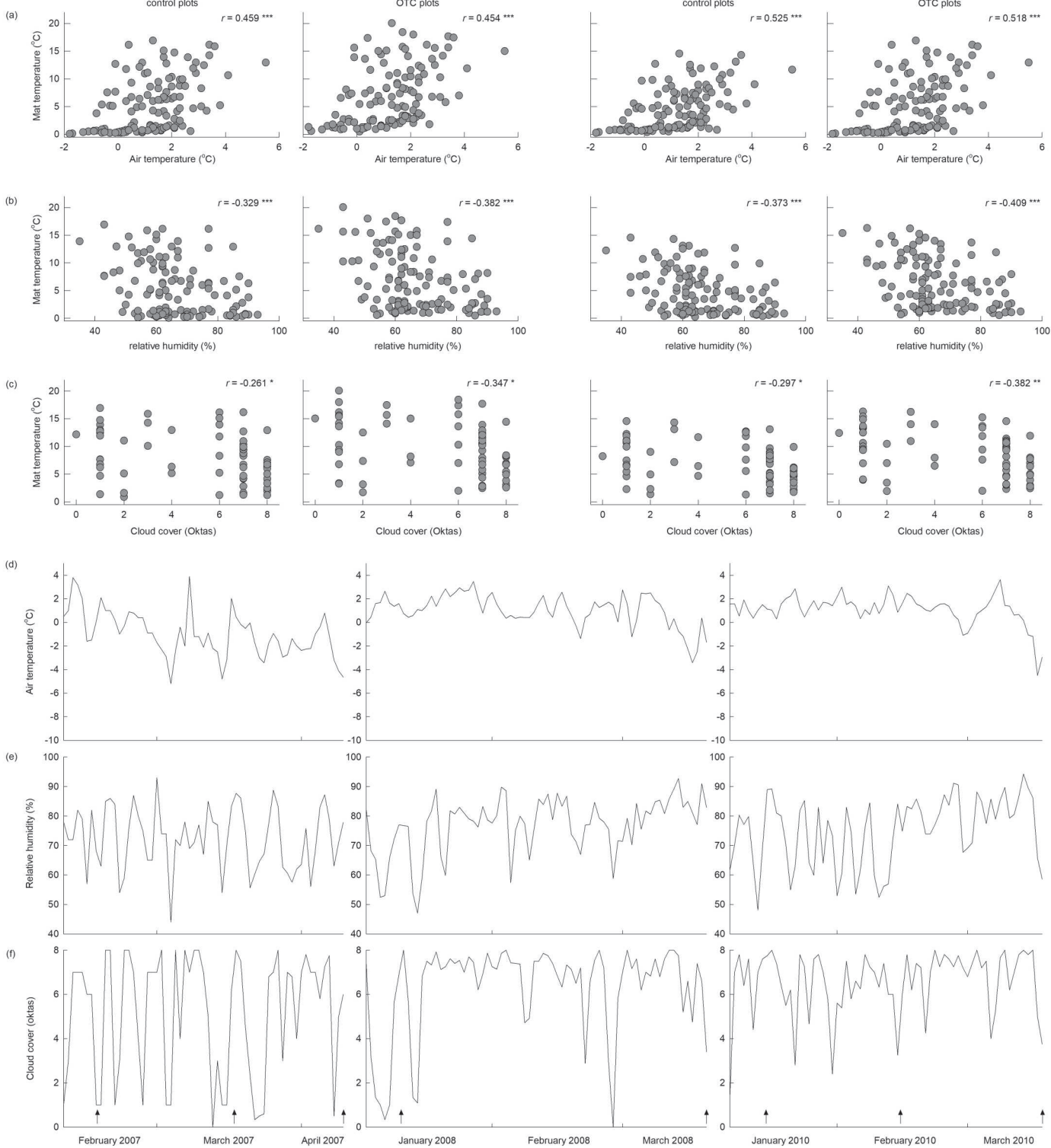




Supplementary Fig. S1. (a) An open top chamber (OTC) placed over the moss *Sanionia uncinata* (green) and the liverwort *Cephaloziella varians* (black) in the gully on Rothera Point, Adelaide island. (b) Control plots and four of the five OTCs in December, at the start of austral summer. Note how snow, which covered vegetation during the winter, has not accumulated in the OTCs. The fifth OTC is still covered by the receding snowbank to the left of the image. Images by R.J. Hall.



Supplementary Fig. S2. (a): Temperatures of *Cephaloziella varians* and *Sanionia uncinata* mats in control plots and OTCs measured in austral summer as a function of (a) air temperature, (b) relative humidity and (c) cloud cover. Pearson's correlation coefficients (r) and significance (*, $P < 0.05$; **, $P < 0.01$ and ***, $P < 0.001$) for each association are shown in the panels. Mean daily (d) air temperature, (e) relative humidity and (f) cloud cover at Rothera Point recorded during austral summers 2006/07, 2007/08 and 2009/10 at points 150 m distant from the warming experiment. Arrows on x-axis in (f) denote samplings.