Supplementary material for:

Do partially buried dune plants grow in optimal trajectories?

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\textbf{Fig. S1} An illustration of \textit{Arctotheca populifolia} shoots, from one individual, encountering partial burial of some leaves on a NE dune slipface (~30° from horizontal). Post burial growth trajectories vary from close to vertical (front left shoot) to close to normal to the dune surface (front right shoot; the wooden level is approximately horizontal), and therefore will need less stem elongation to maintain leaves above the sand upon further burial. These shoots are on the southern side of the individual, thus by growing in a NE direction the shoots are growing toward the centre of the plant – against any apical growth effects.
Fig. S2 Growth distance required for a plant encountering repeated partial burial to maintain leaf area on a dune surface with three growth trajectories, optimal, vertical, and horizontal, related to the slope of the dune surface. The region between the vertical and normal lines represents the ‘saving’ in growth for plants growing normal to the dune surface relative to vertical growth. Distances are proportional to vertical growth, given a vertical burial of unit one.

Fig. S3 Correspondence of the direction of growth of unburied shoots of *S. plumieri* (a) and *A. populifolia* (b) with the direction of the dune face upon which the measured shoots were growing. *S. plumieri*: $\chi^2 = 155.7$, d.f. = 7, $p < 0.001$; *A. populifolia*: $\chi^2 = 4.3$, d.f. = 6, $p < 0.64$, where the direction of the dune face was used as the expected value and the direction of shoot growth as the observed values, for a $\chi^2$ test with direction categorised into 45° bins.