



Figure S1 – Limb use during burial in sandfish. (A) A series of stills from an X-ray video of a sandfish during initial burial at 240 ms intervals. Red dots indicate lead markers on the vertebral midline, while yellow dots indicate markers on the forelimb (FL), contralateral forelimb (CFL), hindlimb (HL) and contralateral hindlimb (CHL). (B) Limb position during burial and subsurface locomotion. High angles denote a protracted posture, low angles a retracted posture. Black areas were out of the field of view. (C) Body angle during burial and subsurface locomotion. Black squares indicate the final retraction of the designated limb, and the black line the approximate time of burial of that body segment. D-F) Experimental manipulation of limb use, including control and sham treatments, indicated by outlines. (D) Proportion of successful burials in each treatment. (E) Average time until complete burial for each treatment; sample size given on the horizontal axis, all-bound state omitted due to low N. (F) Number of body undulations until complete burial for each treatment; all-bound state omitted due to low N.



Movie 1 –Dorsal view videos of selected snake species moving on level and inclined sand.
When inclined, uphill is to the right.

Table S1 – Observed modes of locomotion of snakes on granular media at various inclines. Columns from left to right show species name, mass, total length, maximum midbody diameter, maximum incline angle of effective locomotion, and observed modes on level, 10°, 20°, and 28°, with the last being the avalanche angle of the sand. LU is lateral undulation, SW is sidewinding, Conc. is concertina, and Rect. is rectilinear. Locomotor modes followed by parenthetical (Fail) denotes failure to move on that incline and the modes used during attempted locomotion. All included species attempted to move on the listed diameters; species which did not attempt locomotion (e.g. defensive displays) were excluded from trials.

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