Fig. 1. Grain size distributions in percentages of dry weight per size class of sediment originating from the habitat and from the stomach and gut of Callianassa subterranea.

Fig. 2. The electivity index $E'$ per grain size class, indicating preference for or avoidance of a size class during food selection. The bars marked with an asterisk (*) indicate significant preference/avoidance.
The marginal value theorem. (a) When a forager enters a patch, its rate of energy extraction is initially high (especially in a highly productive patch or where the forager has a high foraging efficiency), but this rate declines with time as the patch becomes depleted. The cumulative energy intake approaches an asymptote. (b) The options for a forager. The solid colored curve is cumulative energy extracted from an average patch, and \( t_i \) is the average traveling time between patches. The rate of energy extraction (which should be maximized) is energy extracted divided by total time, i.e. the slope of a straight line from the origin to the curve. Short stays in the patch (slope = \( E_{\text{short}}/(t_i + s_{\text{short}}) \)) and long stays (slope = \( E_{\text{long}}/(t_i + s_{\text{long}}) \)) both have lower rates of energy extraction (shallower slopes) than a stay (\( s_{\text{opt}} \)) which leads to a line just tangential to the curve. \( s_{\text{opt}} \) is therefore the optimum stay-time, giving the maximum overall rate of energy extraction. All patches should be abandoned at the same rate of energy extraction (the slope of the line OP). (c) Low productivity patches should be abandoned after shorter stays than high productivity patches. (d) Patches should be abandoned more quickly when traveling time is short than when it is long. (e) Patches should be abandoned more quickly when the average overall productivity is high than when it is low.
Figure 1
Average (± SE) observed (black circles) and simulated (white circles) patch residence times on patches of nine hosts containing different initial numbers of healthy hosts. Both averages and standard errors are computed from the Kaplan-Meier estimator of the corresponding survivor functions. The number of replicates from the simulated data are the same as for the observed ones.
Figure 1. Schematic model predicting the optimal surface period for a diving animal (after Kramer 1988). Time to the left of the origin is underwater travel time to and from the foraging area (oxygen stores decreasing). Time to the right of this mark is surface time. Maximum rate of oxygen delivery to depth (i.e. for a given travel time) is given by the slope of a line from the relevant travel time intercept and tangential to the oxygen gain curve. $s^{**}$: surface time required to replenish oxygen stores completely; $s^{*}$: optimal surface time.
S augmente plus vite que D, donc D/S diminue quand D augmente
Figure 2. Schematic model as in Fig. 1, redrawn specifically for birds. If maximizing dive to surface ratio, $s^*$ = optimal surface time, $d^*$ = optimal dive duration; $d_{1-4}$ and $s_{3-4}$ represent a range of dives and corresponding surface periods. See text for details.