**FIGURE 20.3.** (A) Copulating pair of dung flies, *Scatophaga stercoraria*. (B) The thick blue curves show how the number of eggs that a male dung fly fertilizes increases with the time spent copulating. A male’s fitness is proportional to the number of eggs he fertilizes per unit of time (i.e., proportional to the slope of the straight lines). This is maximized by the straight line that just touches the curve; the point where they touch shows the optimum copulation time. Dashed lines are for small males. (C) The observed copulation time as a function of male size is shown by the thick black lines. (The upper and lower black lines show the standard error of the estimate.) This matches the predicted optimum well (red lines, ±S.E.M.), except for very small males (left). Size is measured as the cube of hind tibia length.


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