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On drinking nectar WONJUNG KIM, TRISTAN GILET, JOHN BUSH, Massachusetts Institute of Technology — Many creatures, including bees, birds and bats, feed on floral nectar. It is advantageous for these creatures to ingest energy rapidly due to the threat of predation during feeding. While the sweetest nectar offers the greatest energetic rewards, the exponential increase of viscosity with sugar concentration makes it the most difficult to transport. We here demonstrate that the energy intake rate is maximized at a particular concentration that depends on the mode of nectar feeding. We here rationalize the different optimal concentrations reported for the three principal nectar drinking strategies, capillary suction, active suction and viscous dipping.

John Bush
Massachusetts Institute of Technology

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