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**How mosquitoes fly in the rain** ANDREW DICKERSON, PETER SHANKLES, NIHAR MADHAVAN, DAVID HU, Georgia Institute of Technology — Mosquitoes thrive during rainfall and high humidity. If raindrops are 50 times heavier than mosquitoes, how do mosquitoes fly in the rain? In this combined experimental and theoretical study, we measure the impact force between a falling drop and a free-flying mosquito. High-speed videography of mosquitoes and custom-built mimics reveals a mosquito's low inertia renders it impervious to falling drops. Drops do not splash on mosquitoes, but simply push past them allowing a mosquito to continue on its flight path undeterred. We rationalize the force imparted using scaling relations based on the time of rebound between a falling drop and a free body of significantly less mass.

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