

Abstract Submitted
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The hydrodynamics of splash-cup seed dispersal GUILLERMO AMADOR, YASUKUNI YAMADA, DAVID HU, Georgia Institute of Technology — Over 20 species of plants have raindrop-sized flowers that catch raindrops opportunistically, directing the resulting splash to scatter their 0.3 mm seeds over distances of 1 meter. In this combined experimental and theoretical study, we measure the effectiveness of this drop-based projectile launching. High speed videography is used to visualize drop impacts onto the conical flowers of the plants *Chrysosplenium* and *Mazus* as well as their shape mimics fabricated using a 3D printer. We observe dispersal distance is strongly dependent on the impact parameter between the drop and flower. Off-center impacts maximize dispersal distance by amplifying fluid velocity by a factor of three in a manner similar to the oblique impact of a jet onto a horizontal plane (Kate et al 2007). Further increase in dispersal distance is accomplished through increase of the inertia of the seed by encapsulation into drops.

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