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ON THE COVER

Crassulacean acid metabolism (CAM) is a highly water-use-efficient metabolic adaptation of photosynthetic CO_2 fixation that is under strict temporal control mediated by the endogenous circadian clock. Boxall et al. (pages 2519–2536) investigated the importance of a key circadian clock-controlled protein kinase, phosphoenolpyruvate carboxylase kinase (PPCK), for optimized primary nocturnal CO_2 fixation during CAM. The CAM-associated *PPCK1* gene was silenced using an RNAi approach in the model CAM species *Kalanchoë fedtschenkoi*. Two-thirds of nocturnal CO_2 fixation was lost in the absence of *PPCK1*, and this led to feedback misregulation of key genes within the core circadian oscillator. The cover image shows the succulent, CAM-performing leaves of *K. fedtschenkoi* plants, a species that is endemic to Madagascar. The leaves in the center display characteristic adventitious leaf margin plantlets, a valuable trait for rapid clonal propagation of stable transgenic lines.

IN BRIEF

REVIEW

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