Title:	Understanding the Mechanism of Pattern Formation in Passion Flower
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Abstract:	The evolution of spatial patterns is a central issue in developmental biology. Turing's chemical theory of morphogenesis was a seminal contribution. We describe briefly some of the interesting mathematical aspects of Turing's Reaction-Diffusion (RD) mechanism and give an overview of a few of the popular reaction models incorpo- rated into it. The conditions on kinetic and diffusion parameter values under which pattern formation takes place are derived. We utilize our understanding of Turing's RD mechanism to study pattern formation in Passiflora Incarnata (Passion Flower), which has a pattern of alternate bands of white and violet colours on each of its fibrils with a unique feature of non-uniform widths of the bands. We study systematically the effect of various kinetic and diffusion parameters on the generated patterns using the two different reaction models.
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