Oxley, Semple and Whittle described a tree decomposition for a 3-connected matroid $M$ that displays, up to a natural equivalence, all non-trivial 3-separations of $M$. Crossing 3-separations gave rise to fundamental structures known as flowers. In this talk, we define a generalized flower structure called a $k$-flower, with no assumptions on the connectivity of $M$. We give a complete characterization of $k$-flowers in terms of the local connectivity between petals. (Received February 02, 2008)