1023-05-520   **Talmage J Reid*** (`mmreid@gmail.com`), Department of Mathematics, University, MS 38677.
Conjectures on clones, connectivity, and cycles in matroids.

Two elements of a matroid are clones if the map that interchanges the two elements and fixes all other elements is an automorphism. Clones are important in the study of matroid representability We investigate and give conjectures on the size of clone sets in representable matroids.

Smith conjectured in 1979 that two distinct cycles in a $k-$connected graph meet in at least k vertices when $k \geq 2$. Conjectures that extend this assertion to matroids are considered.

Finally, we consider conjectures of Wu on connectivity in matroids. This is the result of work with many others such as Cotwright, Lemos, McMurray, Robbins, Sheppardson, Wei, and Wu. (Received September 15, 2006)