It is well known that a graph is bipartite if and only if all of its cycles are even. Maffray proved in 1992 that a 2-connected simple graph whose only odd cycles are triangles is bipartite unless it is $K_4$, or the graph obtained from $K_{2,n}$ by adding an edge joining the vertices in the 2-vertex class. In this talk, we will generalize this result first by increasing the length of the largest odd cycle and then by moving to binary matroids. (Received September 20, 2016)