The Chvátal–Erdös Theorem states that every graph whose connectivity is at least its independence number has a spanning cycle. In 1976, Fouquet and Jolivet conjectured an extension: If $G$ is an $n$-vertex $k$-connected graph with independence number $a$, and $a \geq k$, then $G$ has a cycle of length at least $\frac{k(n+a-k)}{a}$. We prove this conjecture. (Received August 23, 2010)