We study the zero distribution of a sequence of polynomials $P_n(z)$ defined by a recurrence of degree three

$$P_n(z) = aP_{n-1}(z) + bP_{n-2}(z) + cP_{n-3}(z) + zP_{n-r},$$

where $1 \leq r \leq 3$ and $a, b, c$ are real numbers. We show that under certain conditions on $a, b, c$, the zeros of $P_n$ will lie on an explicit real interval and are dense there as $n \to \infty$. (Received September 20, 2016)