1035-Z1-304 **Xinyun Zhu*** (`zhu1x@cmich.edu`), Department of Mathematics, Central Michigan University, Mount Pleasant, MI 48859, and **George Grossman** (`gross1gw@cmich.edu`), Department of Mathematics, Central Michigan University, Mount Pleasant, MI 48859. *Limits of zeros of polynomial sequences.*

In the present paper we consider $F_k(x) = x^k - \sum_{t=0}^{k-1} x^t$, the characteristic polynomial of the k-th order Fibonacci sequence, the latter denoted $G(k, l)$. We determine the limits of the real roots of certain odd and even degree polynomials related to the derivatives and integrals of $F_k(x)$, that form infinite sequences of polynomials, of increasing degree. In particular, as $k \to \infty$, the limiting values of the zeros are determined, for both odd and even cases. It is also shown, in both cases, that the convergence is monotone for sufficiently large degree. We give an upper bound for the modulus of the complex zeros of the polynomials for each sequence. This gives a general solution related to problems considered by Dubeau 1989, 1993, Miles 1960, Flores 1967, Miller 1971 and later by the second author in the present paper, and Narayan 1997. (Received August 31, 2007)