1067-39-2404 **Austin H Jones***, Department of Mathematics, Wake Forest University, Winston-Salem, NC 27109, and **Kenneth S Berenhaut**, Department of Mathematics, Wake Forest University, Winston-Salem, NC 27109. *Asymptotic behavior of solutions to difference equations involving ratios of elementary symmetric polynomials.*

This paper studies the behavior of positive solutions of the recursive equation $y_n = \left(\frac{e_{i,k}}{e_{j,k}}\right)(y_{n-t_1}, y_{n-t_2}, \ldots, y_{n-t_k})$, $0 \leq i, j \leq k$, where $e_{m,k}$ is the m^{th} elementary symmetric polynomial on k variables, $t_l \geq 1$ for $1 \leq l \leq k$, $\gcd(t_1, t_2, \ldots, t_k) = 1$ and $y_{-s}, y_{-s+1}, \ldots, y_{-1} \in \mathbb{R}^+$, with $s = \max\{t_1, t_2, \ldots, t_k\}$. A variant of Newton's inequalities is employed. Included amongst the results is a generalization of a particular case of Theorem 4.11 in E. A. Grove and G. Ladas, *Periodicities in Nonlinear Difference Equations*, Chapman & Hall/CRC Press, Boca Raton (2004). (Received September 23, 2010)