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Candace M. Kent* (cmkent@vcu.edu), Virginia Commonwealth University, Department of Mathematics & Applied Math., Harris Hall, 1015 Floyd Ave., P.O. Box 842014, Richmond, VA 23284-2014, **David M. Chan** (dmchan@vcu.edu), Virginia Commonwealth University, Department of Mathematics & Applied Math., Harris Hall, 1015 Floyd Ave., P.O. Box 842014, Richmond, VA 23284-2014, and **Norma L. Ortiz-Robinson** (nlortiz@vcu.edu), Virginia Commonwealth University, Department of Mathematics & Applied Math., Harris Hall, 1015 Floyd Ave., P.O. Box 842014, Richmond, VA 23284-2014. *Convergence Results on a Second-Order Rational Difference Equation with Quadratic Terms.*

We investigate the global behavior of the second-order difference equation $x_{n+1} = x_{n-1}((\alpha x_n + \beta x_{n-1})/(Ax_n + Bx_{n-1}))$, where initial conditions and all coefficients are positive. We find conditions on A, B, α, β under which the even and odd subsequences of a positive solution converge, one to zero and the other to a nonnegative number; as well as conditions where one of the subsequences diverges to infinity and the other either converges to a positive number or diverges to infinity. We also find initial conditions where the solution monotonically converges to zero and where it diverges to infinity. (Received August 07, 2009)