1067-05-850 **Ralph P. Grimaldi*** (ralph.grimaldi@rose-hulman.edu), Mathematics Department, Rose-Hulman Institute of Technology, 5500 Wabash Avenue, Terre Haute, IN 47803. *Extraordinary Subsets of* $1, 2, 3, \ldots, n$.

For $n > 0$ let $[n] = 1, 2, 3, \ldots, n$. A subset S of $[n]$ is called extraordinary if the size of S equals the minimal element in S. The number of extraordinary subsets of $[n]$ is F_n, the nth Fibonacci number. For these subsets, one can count (i) the total number of elements, with repeats considered, that appear in all the extraordinary subsets of $[n]$, and (ii) the sum of all the elements that appear among the extraordinary subsets. Fixing $n > 0$, for $1 \leq k \leq n$, we consider $a(n, k)$ which counts the number of extraordinary subsets of $[n]$ that contain k. We find that the sequence $a(n, k)$ is unimodal and discover the Catalan numbers when studying these unimodal sequences. (Received September 15, 2010)