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**Mihai Caragiu\*** (m-caragiu1@onu.edu), Department of Mathematics and Statistics, Ohio Northern University, Ada, OH 45810. *On a Fibonacci-type recursion involving Euler's totient function.* Preliminary report.

The sequence 0, 1, 1, 2, 2, 4, 6, 10, 16, 18, 24, 42, 66, 108, 120, 228, 348, 576, 720, 1296, 2016,... is recursively defined by  $X_n = \phi(X_{n-1} + X_{n-2} + 1)$  for  $n \geq 2$ , starting from  $X_0 = 0$  and  $X_1 = 1$ , where  $\phi$  is the Euler's totient function. While the terms of this "phi-bonacci" sequence are bounded from above by the regular Fibonacci numbers ( $X_n \leq F_n$  for all  $n$ ), a computational exploration of the behavior of the sequences  $\{X_n\}$  and  $\{X_{n+1}/X_n\}$  suggests a series of intriguing open problems which will be discussed. (Received September 13, 2010)