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*Power Fibonacci Sequences*,

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**Abstract**

We examine integer sequences $G$ satisfying the Fibonacci recurrence relation $G_n = G_{n-1} + G_{n-2}$ that also have the property $G \equiv 1, a, a^2, a^3, \ldots \pmod{m}$ for some modulus $m$. We determine those moduli $m$ for which these power Fibonacci sequences exist and the number of such sequences for a given $m$. We also provide formulas for the periods of these sequences, based on the period of the Fibonacci sequence $F \pmod{m}$. Finally, we establish certain sequence/subsequence relationships between power Fibonacci sequences.