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Radically weakening the Lehmer and Carmichael conditions

Lehmer's totient problem asks if there exist composite integers n satisfying the condition $\varphi(n)|n-1$, (where φ is the Euler-phi function) while Carmichael numbers satisfy the weaker condition $\lambda(n)|n-1$ (where λ is the Carmichael universal exponent function). We weaken the condition further, looking at those composite n where each prime divisor of $\varphi(n)$ also divides $n-1$. While these numbers appear to be far more numerous than the Carmichael numbers, we show that their distribution has the same rough upper bound as that of the Carmichael numbers, a bound which is heuristically tight.