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Abstract

In seasonal environments, many species concentrate their reproduction in the time of year most likely to maximize offspring survival. Asian elephants (*Elephas maximus*) inhabit regions with seasonal climate, but females can still experience 16-week reproductive cycles throughout the year. Whether female elephants nevertheless concentrate births on periods with maximum offspring survival prospects remains unknown. We investigated the seasonal timing of births, and effects of birth month on short- and long-term mortality of Asian elephants, using a unique demographic data set of 2350 semicaptive, longitudinally monitored logging elephants from Myanmar experiencing seasonal variation in both workload and environmental conditions. Our results show variation in birth rate across the year, with 41% of births occurring between December and March. This corresponds to the cool, dry period and the beginning of the hot season, and to conceptions occurring during the resting, non-logging period between February and June. Giving birth during the peak December to March period improves offspring survival, as the odds for survival between age 1 and 5 years are 44% higher for individuals born during the high