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## **Use of Erroneous Wolf Generation Time in Assessments of Domestic Dog and Human Evolution**

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<http://science.sciencemag.org/content/352/6290/1228/tab-e-letters>

Scientific interest in dog domestication and parallel evolution of dogs and humans (1) has increased recently (2-4), and various important conclusions have been drawn based on how long ago the calculations show dogs were domesticated from ancestral wolves (*Canis lupus*). According to Skoglund et al. (2015:3), calculation of this duration is based on “the most commonly assumed mutation rate of  $1 \times 10^{-8}$  per generation and a 3-year gray wolf generation time . . .” (5). It is unclear on what information the assumed generation time is based, but the latest paper (6) seems to have based generation time on a single wolf (7). The importance of assuring that such assumptions are valid is obvious.

Recently, two independent studies employing three large data sets and three methods from two widely separated areas have found that wolf generation time is 4.2-4.7 years. The first study, based on 200 wolves in Yellowstone National Park used age-specific birth and death rates to calculate a generation time of 4.16 years (8). The second, using estimated first-breeding times of 86 female wolves in northeastern Minnesota found a generation time of 4.3 years and using uterine examination of 159 female wolves from throughout Minnesota yielded a generation time of 4.7 years (9).

We suggest that previous studies using a 3-year generation time recalculate their figures and adjust their conclusions based on these generation times and publish revised results.

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