FIGURE 19.33. Selection on large numbers of genes generates only modest fitness variation. For example, selection $s = 1\%$ on alleles at frequency $p = 10\%$ at each of $n = 10,000$ diploid loci would give a total variance in fitness of $2ns^2pq = 0.18$. More than 98% of individuals have between 1900 and 2100 deleterious alleles and hence have fitness within a range 0.37–2.7 relative to the population mean (*shaded* region). (*Left*) The distribution of numbers of deleterious alleles per individual. (*Right*) How fitness declines with the number of deleterious alleles, assuming multiplicative effects; the average individual is assigned a fitness of 1.

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