ALTERNATIVE TELOMERES

Different organisms use different solutions for the same problem. DNA replication implies that the ends of the chromosomes shorten at each cell replication. The vast majority of eukaryotic organisms use a repeated TTAGGG (or variant) sequence at the end of the chromosome to solve the problem. A portion of these sequences are truncated at each cycle*, but the proximal genes are protected. Diptera (*Drosophila*, for instance) use long terminal repeats (LTR) as an alternative solution for the telomere shortening problem.
A paper in BMC Biology reports that the tapeworm (*Hymenolepis microstoma*) uses centromeric sequences as a protecting cap at the end of the chromosomes.

* The protection is not indefinite because telomerase, which regenerates the length of the telomeres in embryonic and germ cells, is not expressed in many somatic cells (cell senescence).