SUPPLEMENTARY INFORMATION

Figure S1. Older genes have a greater concentration of transposable elements than newer genes. For each gene the fraction of transposable element was divided by the gene length. Older genes have significantly higher fractions of transposable elements ($P<10^{-15}$, Kolmogorov-Smirnov)

Figure S2. Properties of highly expressed and ribosomal genes. (A-D) Highly expressed genes tend to be short, with increased alternative splicing and low levels of gene duplication. **(E-H)** Ribosomal genes as a group have the same properties as highly expressed genes.

Table S1. The GD-AS correlation is independent of many genomic variables, related to Figure 4. Note that the **correlation** remains significant after controlling for these variables.

Gene property	*P*-value
Strand	10^{-10}
Chromosome number	10^{-9}
Presence of trans-membrane domain	10^{-10}
GC content	10^{-10}
Strand and GC content	10^{-10}
Chromosome number and presence of trans-membrane domain	10^{-9}

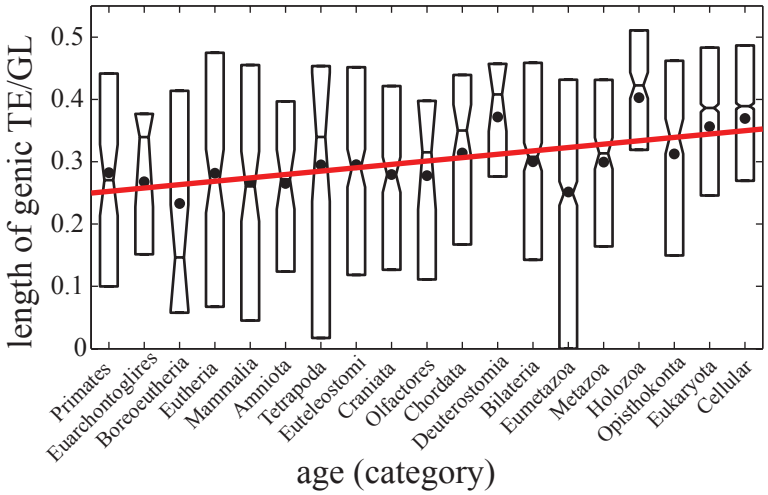
length of genic TE/GL
0
0.1
0.2
0.3
0.4
0.5
Primates
Euarchontoglires
Boreoeutheria
Eutheria
Mammalia
Amniota
Tetrapoda
Euteleostomi
Craniata
Olfactores
Chordata
Deuterostomia
Bilateria
Eumetazoa
Metazoa
Holozoa
Opisthokonta
Eukaryota
Cellular
age (category)

Figure S1.

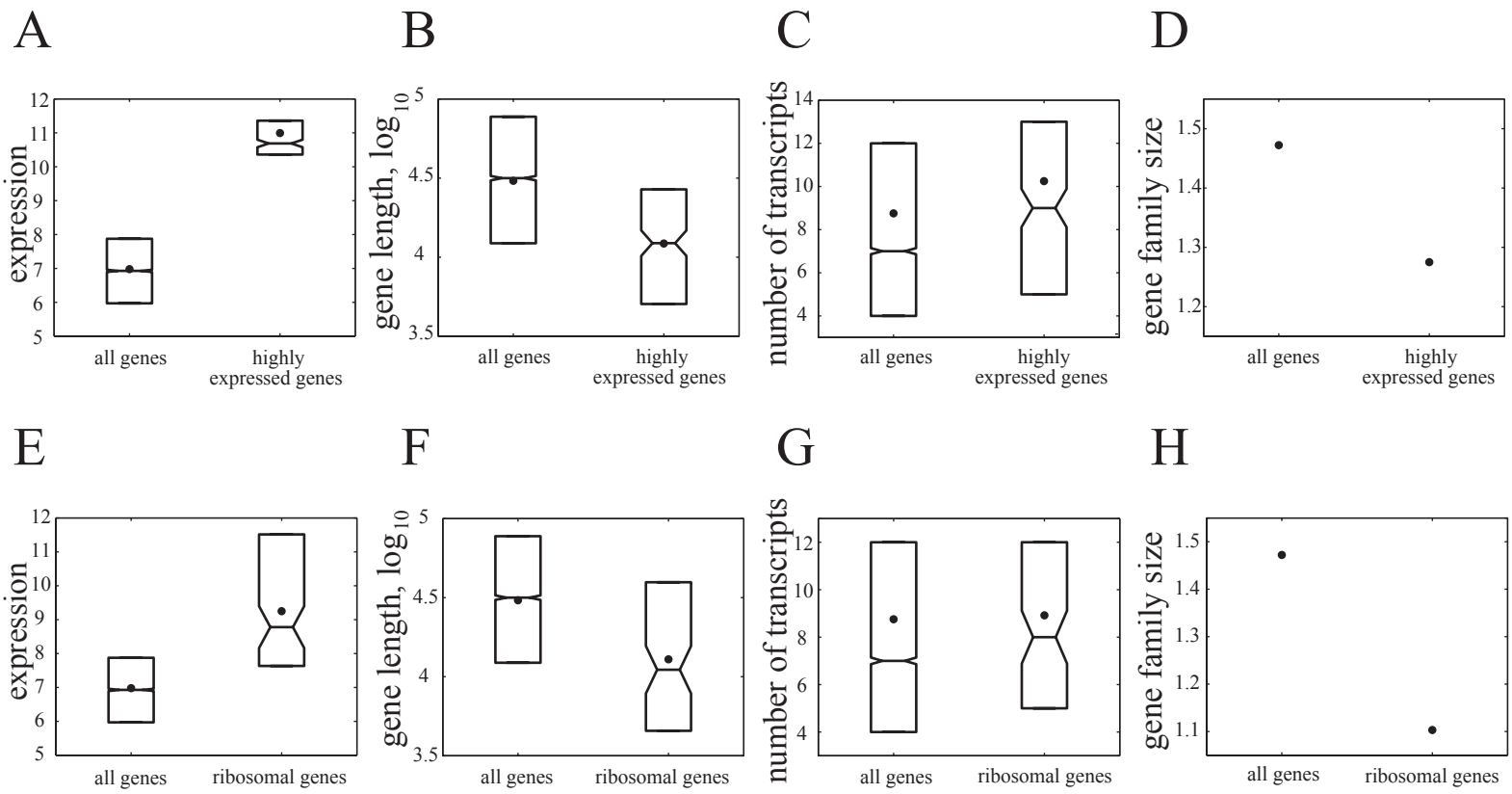
A
B
C
D
expression
gene length, log10
number of transcripts
gene family size
all genes
highly expressed genes
E
F
G
H
ribosomal genes

Figure S2.