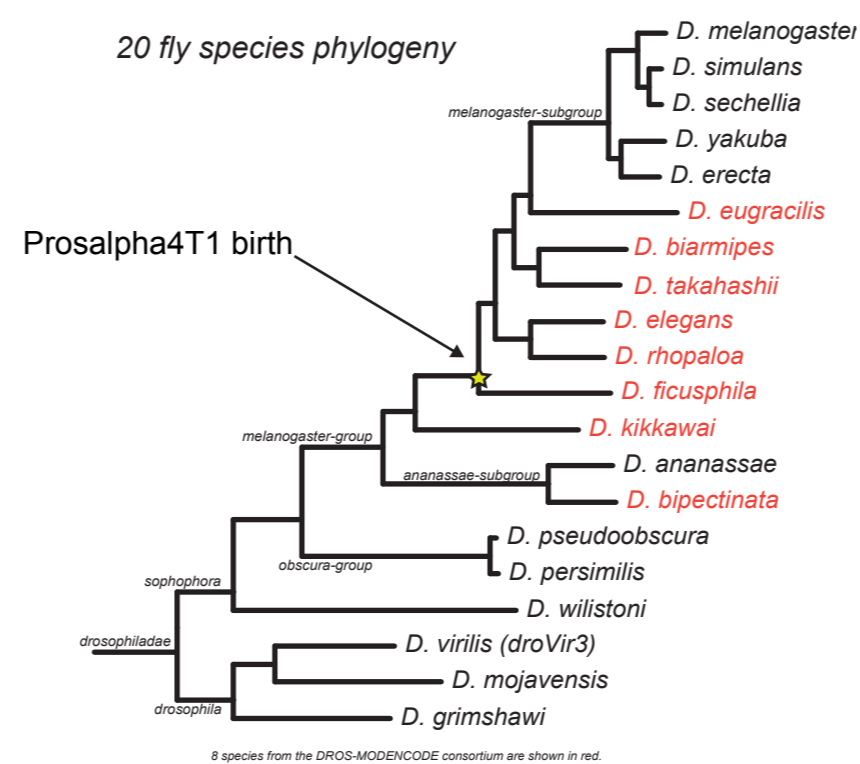
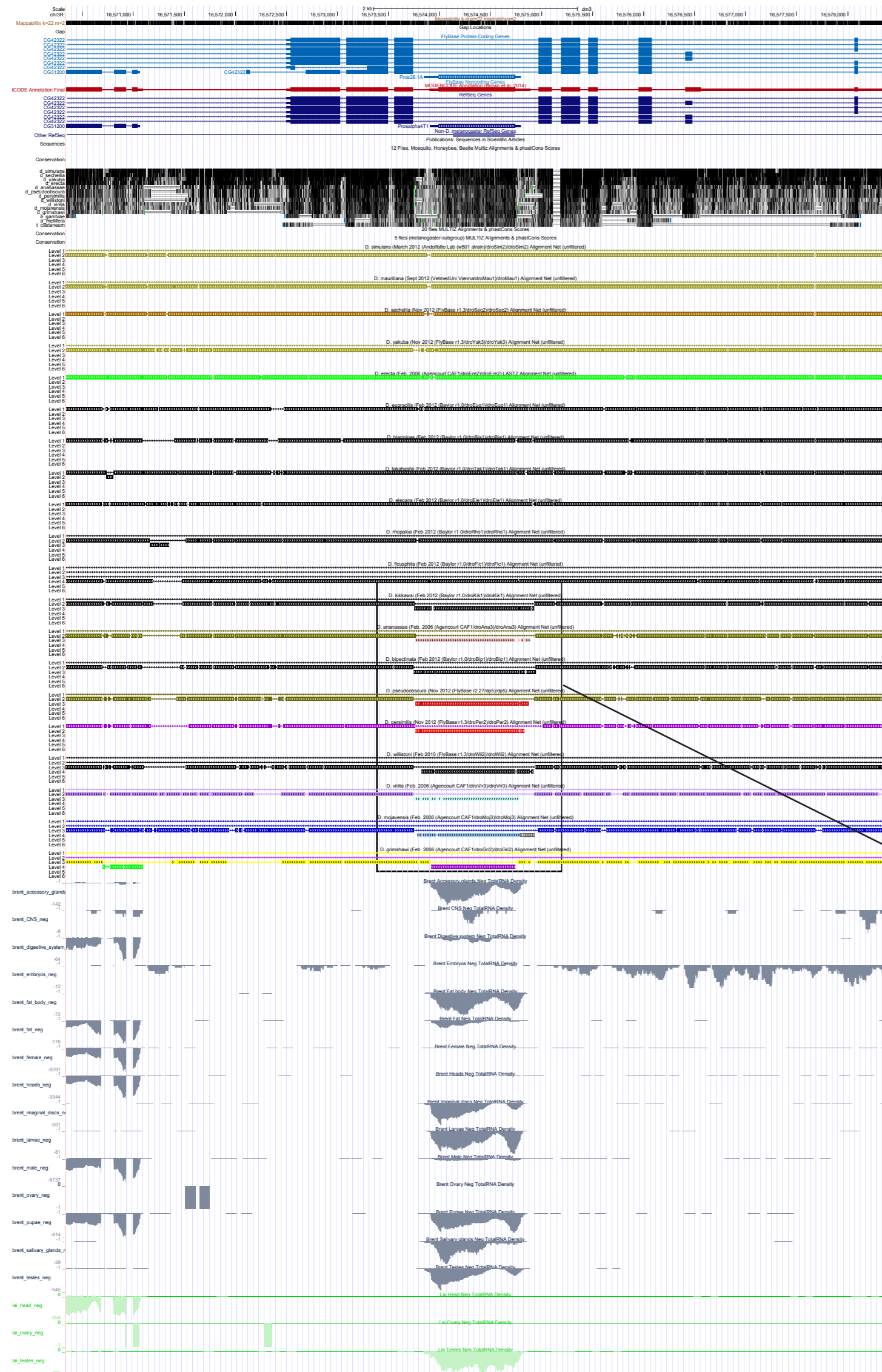


Prosalpha4T1 (CG17268) chr3R:16,573,906-16,574,796

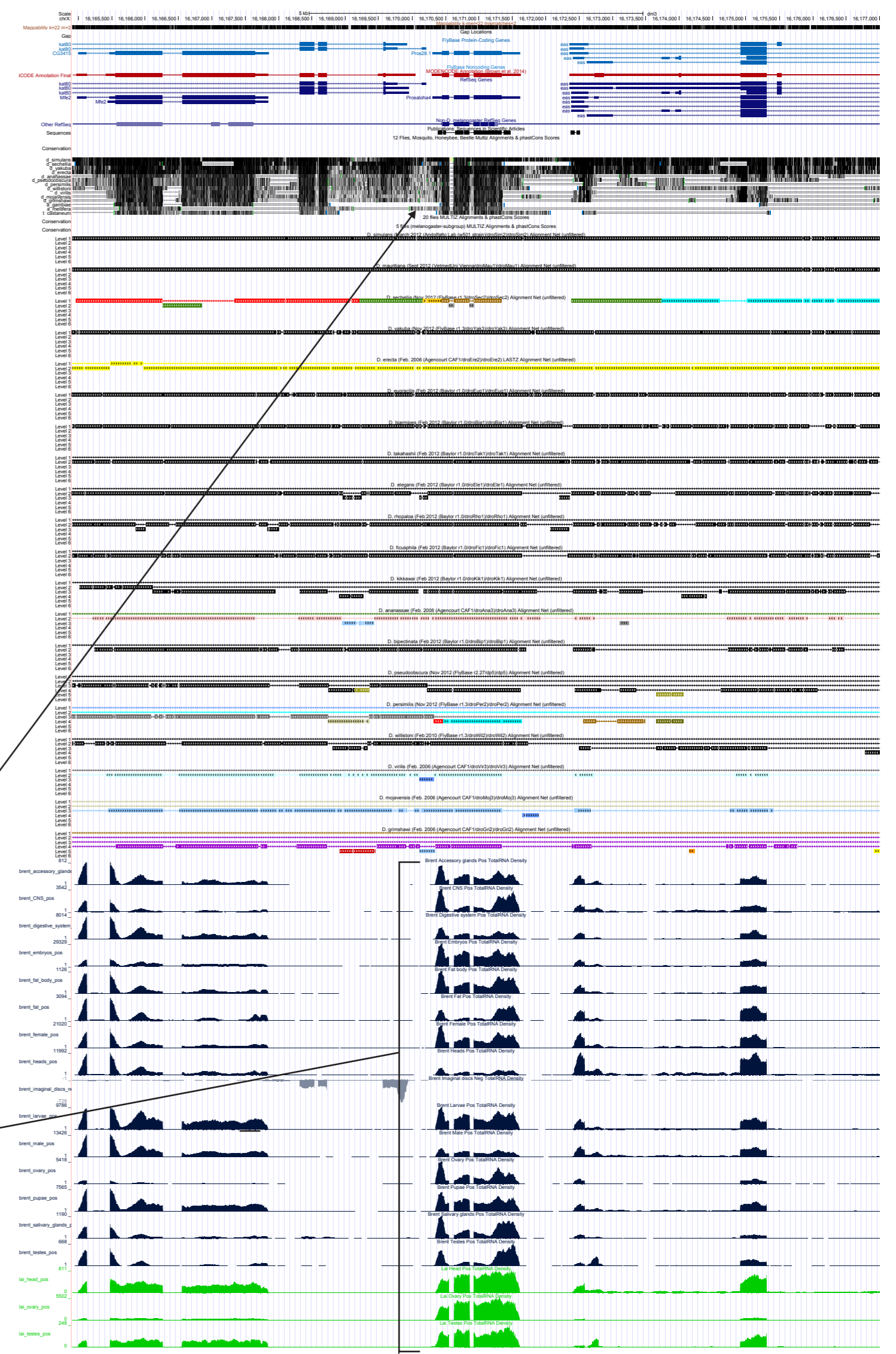


These species show the parental copy, Prosalpha4 aligned here, but the parental copy resides in ChrX

Prosalpha4T1 expressed in:
Testis, accessory gland,
Fat body, imaginal discs,
larvae, pupae.

Prosalpha4 is expressed ubiquitously

Prosalpha4 (CG3422) chrX:16,170,303-16,171,620



Supplementary Figure 3. Examples of chains and nets evidence for young gene emergence.

Many recently-emerged genes are close paralogs of existing loci. The global multi-genome alignments visualized in the UCSC genome browser often represent paralogous sequences together that can obscure true gene age. In the example of CG17268 (Prosa4T1), Multiz alignments give the impression that it is conserved throughout the Drosophilid phylogeny. However, inspection of underlying chains and nets shows that this is not the case. While all alignments from species between *D. melanogaster* and *D. ficusphila* in the lineage place CG17268 and its neighboring genes on the same level, all of the more distant species place the CG17268-homologous sequence on a different level. In fact, the parental copy Prosa4 has been misaligned in all of these other species. Note that Prosa4 is ubiquitously expressed, including in the male reproductive system, whereas Prosa4T1 is largely restricted to the male reproductive system.

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Supplementary Figure 3