**Supplementary file 1: Clusters displaying a time effect for FA in male and female zebra finch brains.**

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| Statistical test | Cluster-ROI | Cluster level | Peak level |
| pFWE | kE | pFWE | F |
| Interaction age \* sex | Arcopallium | Left  | <0.001 | 21 | <0.001 | 16.49 |
| Right | <0.001 | 28 | <0.001 | 25.39 |
| Rostro-lateral Area X surroundings | Left | <0.001 | 34 | <0.001 | 10.33 |
| Right | 0.001 | 20 | 0.002 | 8.76 |
| Caudal area X surroundings | Left | <0.001 | 11 | <0.001 | 9.62 |
| Right | <0.001 | 16 | 0.001 | 9.08 |
| Time effect males | tOM | Left | <0.001 | 17970 | <0.001 | 103.11 |
| Right | <0.001 | 63.71 |
| LaM | Left | <0.001 | 87.26 |
| Right | <0.001 | 65.15 |
| Arcopallium | Left | <0.001 | 46.01 |
| Right | <0.001 | 68.99 |
| LFS | Left  | <0.001 | 54.45 |
| Right | <0.001 | 57.92 |
| tFA | Left | <0.001 | 49.48 |
| Time effect females | tOM | Left | <0.001 | 11979 | <0.001 | 110.44 |
| Right | <0.001 | 69.67 |
| tFA | Left | <0.001 | 51.09 |
| FPL | Left | <0.001 | 56.90 |
| Right | <0.001 | 49.69 |
| LaM | Left | <0.001 | 71.91 |
| Right | <0.001 | 567 | <0.001 | 51.52 |
| LFS | Left | <0.001 | 126 | <0.001 | 26.80 |