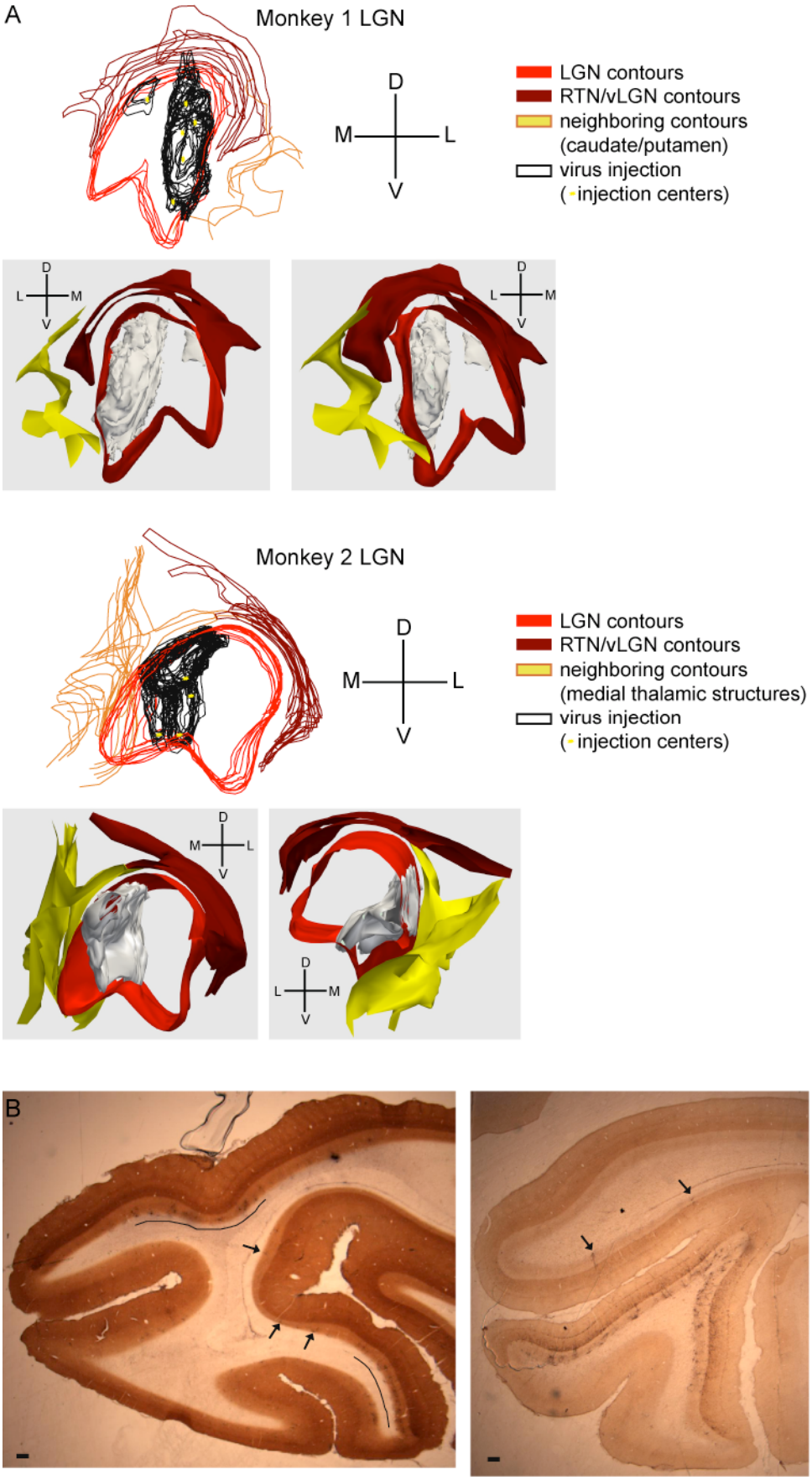
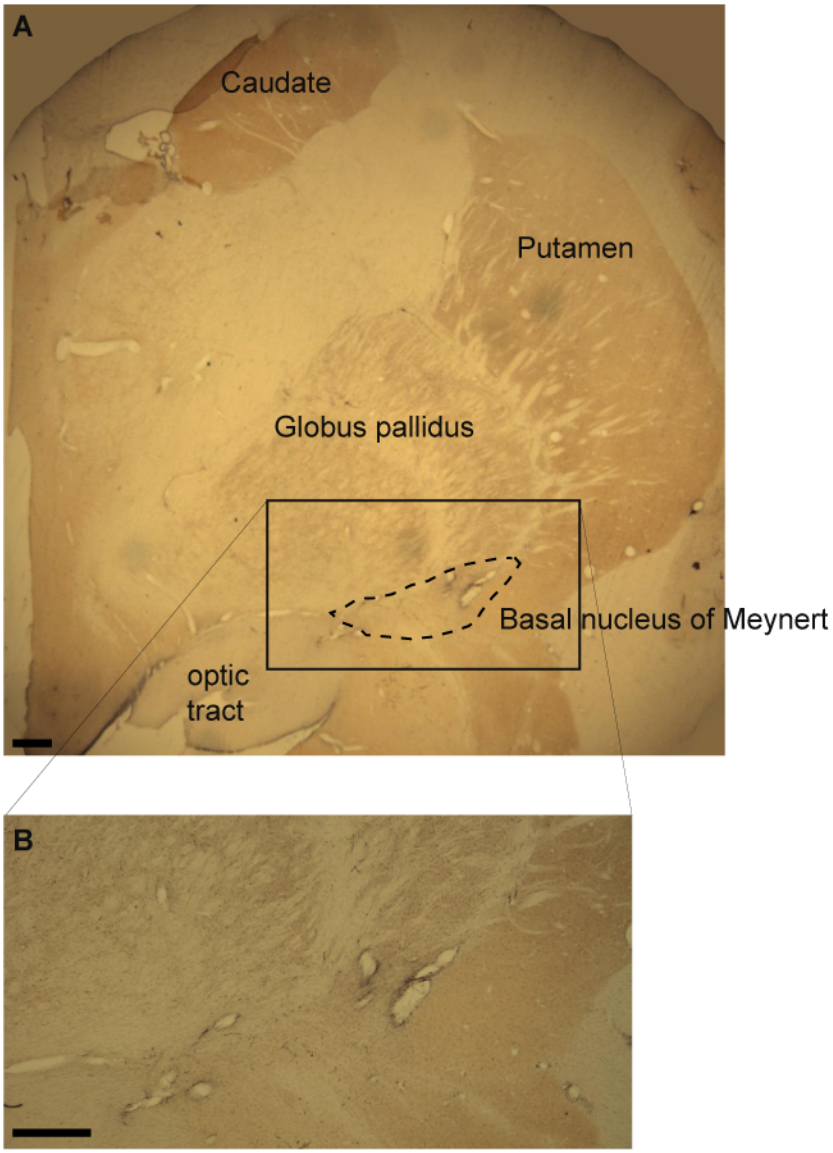
Supplemental Information

Supplemental Figure 1



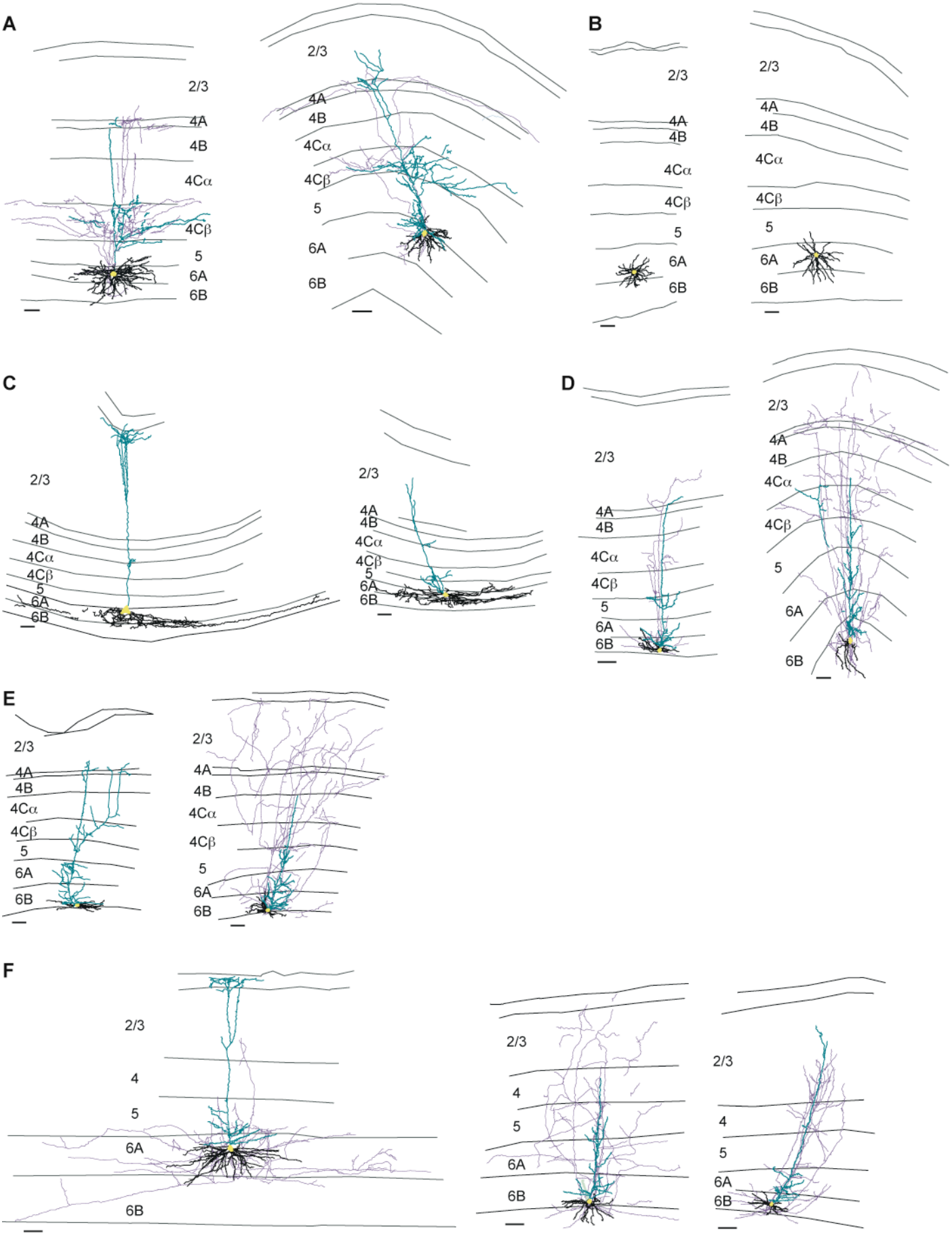
Supplemental Figure 1 related to Figure 1: Virus injection sites and labeled CG neurons distributed throughout V1. **A.** Reconstructions of the virus injection sites in the LGNs of Monkey 1 (top) and Monkey 2 (bottom) and 3-D renderings of contours from two different perspectives for each injection site reconstruction (note dorsal/ventral/medial/lateral axes for each). Outlines of injections (black lines with injection centers indicated by yellow stars, white contours), LGN (red – note not all LGN contours are drawn for clarity), reticular nucleus (RTN) and ventral LGN (dark red), and neighboring thalamic structures (orange/yellow) are illustrated. Note that in none of the sections do injections extend into neighboring structures. **B.** Photographs of stained V1 coronal sections from Monkey 1 (right) and Monkey 2 (left) illustrating the range over which labeled CG neurons were observed in V1. Arrows indicate CG neurons that are more isolated and lines illustrate regions where CG neurons are clustered (right). Scale bars are 800 microns.

Supplemental Figure 2



Supplemental Figure 2 related to Figure 1: Photographs of a coronal section through the basal forebrain of Monkey 1 in the same hemisphere as the virus injection in the LGN. **A.** The basal nucleus of Meynert, the basal forebrain structure containing neurons that project to the reticular nucleus, is outlined by a dashed line. Other structures are labeled. Medial is left, dorsal is up. Box outlines the section displayed in **B**. Scale bars are 1 mm. Note the lack of labeled neurons in the basal nucleus of Meynert, indicating that virus injections did not invade the reticular nucleus. The section displayed is representative of sections through the extent of the basal forebrain.

Supplemental Figure 3



Supplemental Figure 3 related to Figures 3 and 6: Additional reconstructions of CG neurons. **A, B, C, D, E.** Two example reconstructions each of Iβ, spiny stellate, large, IC, and tilted V1 CG neurons, respectively. **F.** Example reconstructions of three V2 CG neurons including an upper layer 6 V2 CG (left) and two lower layer 6 V2 CGs (middle, right). Conventions as in Figure 3; scale bars beneath each reconstruction represent 100 microns. Note that CG neurons display similar morphology, even when they are located closer or further from curvature in the cortex.