

Figure 5: Overlapping of the ACS and PCS in rostrocaudal axis (marked by arrows) in a different brain from the one shown in Fig.3.

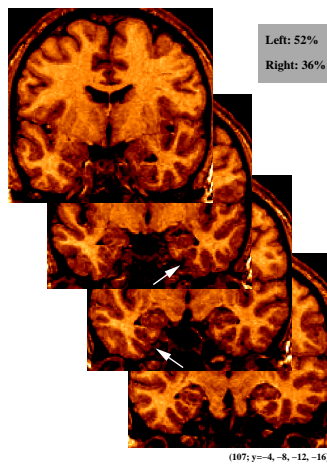


Figure 6: Joined ACS and PCS, forming a "Y" or wider area (indicated by arrows).

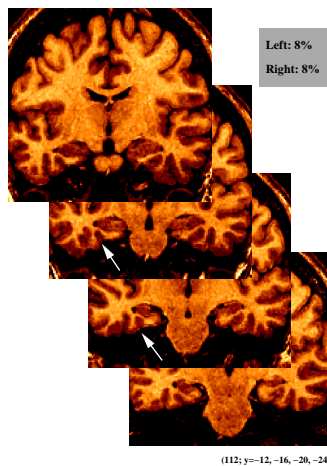


Figure 7: Continuous collateral sulcus (ACS and PCS; indicated by arrows).

Conclusion

The division in the collateral sulcus was observed in a large sample of brains and its posterior limit follows a normal distribution (Fig. 8). The probability map of the

lateral bank of the anterior collateral sulcus (Fig. 9) may provide the anterior border of the parahippocampal cortex, a method by which to localize peaks of activation in brain imaging studies. The lateral bank of the collateral sulcus may provide the lateral border of the entorhinal, perirhinal and parahippocampal cortices [2]. Further studies are needed to confirm the precision of this landmark in defining cytoarchitectonic fields. However the need for an anatomical distinction amongst medial temporal lobe structures is imperative since numerous studies have shown that the entorhinal, perirhinal, and parahippocampal cortices can play roles in memory, independent from that of the hippocampus and from each other [7, 8]. A probability map, based on landmarks such as the one studied here, can provide higher accuracy in determining the location of various sites of functional activation within the medial temporal lobes.

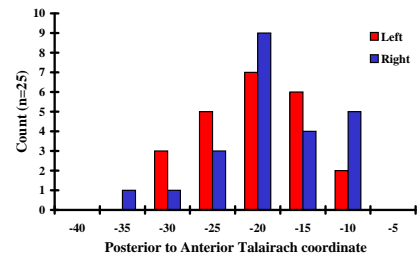


Figure 8: Histogram showing the distribution of the posterior limit of the ACS over standard space.

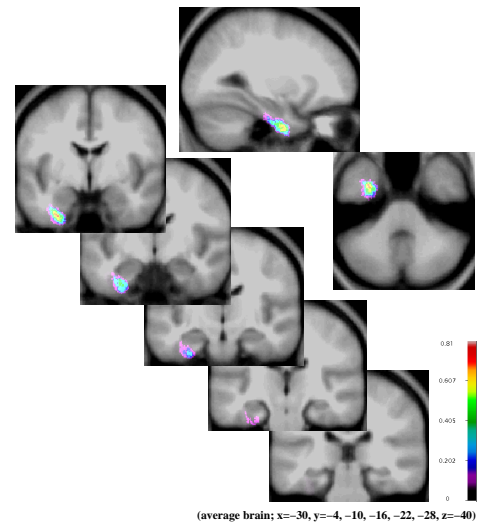


Figure 9: Statistical map of the lateral bank of the ACS as a landmark for the anterior limit of the parahippocampal cortex.

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