

Intraspecific crosses involving five cultivars of *Amaranthus hypochondriacus* and two from *A. caudatus* were studied to investigate the inheritance of five morphological traits (seed coat colour, inflorescence colour, seedling colour, oval leaf mark and purple leaf mark). Seedling colour, inflorescence colour, seed coat colour and oval leaf mark segregated to a 3:1 ratio and therefore each was controlled by a single dominant gene. The purple leaf mark segregated in 9:7 ratio and hence may be controlled by two dominant genes. Simultaneous segregation for seed coat colour and inflorescence colour gave a ratio of 9:3:3:1. Similar genetic ratio was observed for the simultaneous segregation for oval leaf mark and inflorescence colour. It was suggested that each of these traits is controlled by independent genes.