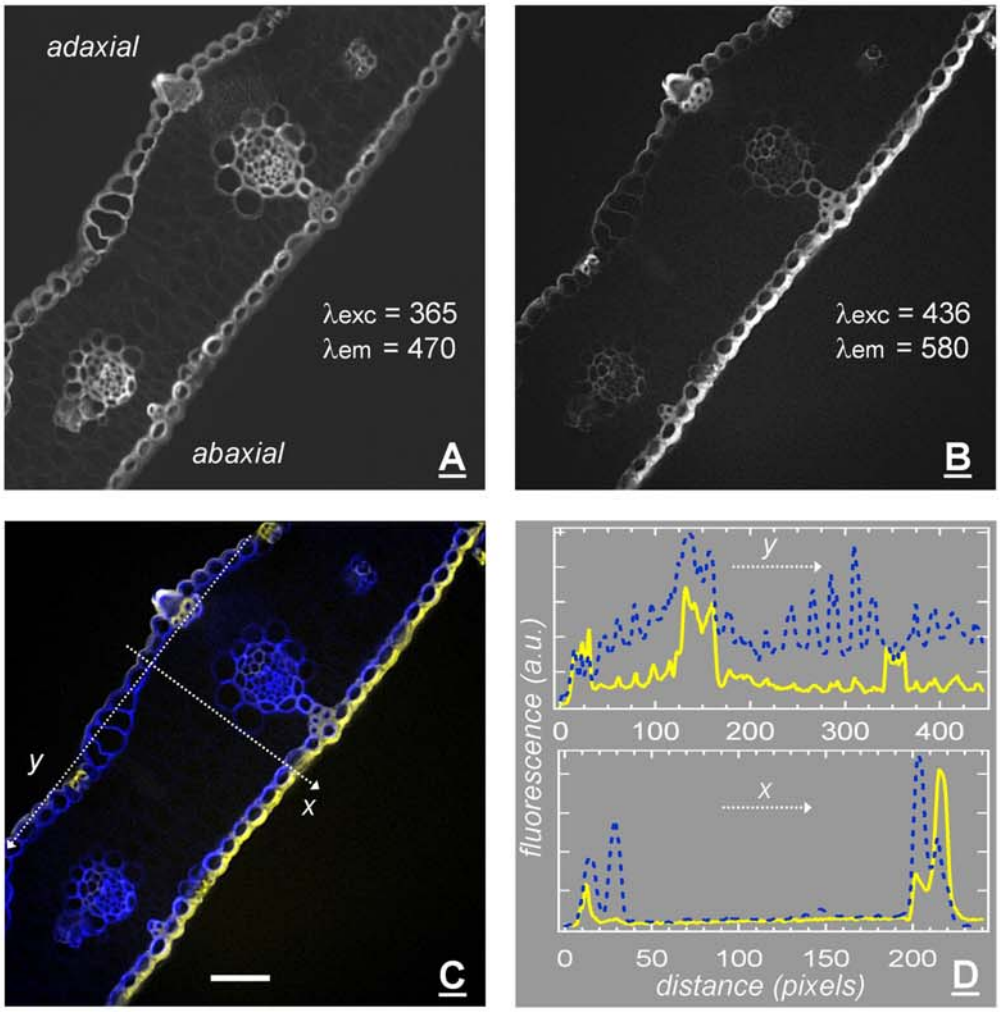

Figure 6.2 Multispectral autofluorescence microimaging of a 100-μm-thick cross-section from a *Triticum aestivum* L. leaf in phosphate buffer. The autofluorescence images in panel (a) was excited at 365 nm and detected in the blue range at 470 nm, and that in panel (b) was excited at 436 nm and detected in the yellow range at 580 nm. Combination of monochrome images, (a) and (b), with blue and yellow colours assigned to the 470 and 580 emission bands, respectively, is shown in panel C (bar = 50 μm). Panel (d) depicts fluorescence intensity profiles for the 470 and 580 nm bands along the two, x and y, directions indicated by dotted arrows in (c). Panels (c) and (d) clearly reveal inhomogeneous fluorescence characteristics and, thus, quite large variations in spatial localisation of different fluorescing compounds: the UV-induced blue fluorescence emanates from cell walls, while the blue-induced yellow signal appears to be confined to cuticles, guard cells and sclerenchyma bands (G. Agati, Corrado Tani and Z.G. Cerovic, unpublished data).

(Tattini *et al.*, 2004, 2005) and also for the characterisation of leaf damage induced by ozone stress (Bussotti *et al.*, 2005).

6.2.6 *Auto-fluorescence and reagent-induced fluorescence*

The early microscopic studies of Harris and Hartley (1976) suggested that the main contributors to blue–green fluorescence of leaf surfaces included hydroxycinnamic