reflected 5% of UV radiation (Woolley, 1971); glabrous *Eucalyptus* leaves exhibited UV-B reflectance of 5% (Robberecht *et al.*, 1980); UV-reflectance values ranging between 5 and 10% were measured for *P. sativum* leaves (Donkin and Price, 1990; Gonzalez *et al.*, 1996); leaflets from bean plants (*Phaseolus vulgaris*) reflected 5% of radiation at 360 nm (Bullas-Appleton *et al.*, 2004); green leaves of *A. platanoides* exhibited UV reflectance of 5% (Merzlyak and Gitelson, 1995); and, pecan leaves (*Carya illinoensis*) reflected between 4 and 8% of UV radiation (Qi *et al.*, 2003). Grant *et al.* (2003) determined UV reflectance values of approximately 5% for leaves of 20 different deciduous tree species.

The above data from intact leaves agree well with UV-reflectance measurements using isolated epidermal strips from six different species which exhibited reflectance in the UV between 4 and 9% (Gausmann *et al.*, 1975). With the reservation that specular reflectance at oblique angles of incident radiation is probably higher than that observed under the more frequently used conditions of perpendicular illumination, published data suggest that UV reflectance originating at the leaf periphery is negligible in glabrous leaves. In the visible region, the absence of efficient absorption in the epidermis might result in somewhat higher surface reflectance (Figure 6.1). Nonetheless, we believe that reflection by the glabrous leaf surface does not significantly intercept penetration of visible radiation into the leaf and, therefore, does not normally restrict availability of visible radiation for photosynthesis.

In flowers of a number of plant species, UV reflection can vary markedly within a single petal so that in radial flowers peripheral high UV reflectance contrasts with low UV reflectance near the centre, and this contrast might help to attract pollinating insects with UV vision. In *Brassica rapa* flowers, Ômura *et al.* (1999) determined that flower reflectance at 350 nm at the outer edge of the petal was greater than 20% but lesser than 10% in the central part. Extrapolating from the situation in green leaves, it is likely that in petals the presence of UV-absorbing compounds modulates UV reflectance originating in deeper layers (cf. Harborne, 1988); indeed, the highly UV-reflecting zones of *Hypericum calycinum* petals exhibited much smaller concentrations of UV-absorbing compounds when compared with zones of low UV reflectivity (Gronquist *et al.*, 2001). Further, petals of a *Petunia hybrida* mutant, in which accumulation of all flavonoids was blocked, appeared much brighter in UV photography compared with wild-type flavonoid-containing petals (Mol *et al.*, 1998).

Glaucous surfaces. In some leaves, specific waxes on the surface of the epidermis produce a glaucous (or blue–green) appearance and some of these glaucous leaves reflect radiation better than glabrous ones. For instance, glaucous needles of blue spruce (*P. pungens*) reflected 25% of UV radiation but non-glaucous needles from the same species reflected only 10% (Reicosky and Hanover, 1978) confirming an earlier report (Clark and Lister, 1975) that mechanical removal of the wax bloom from glaucous blue spruce needles reduced the high UV reflection values of glaucous needles to those of glabrous needles. In both studies, reflection by