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Cuticle Micromorphology of Leaves of Korean Ulmaceous Plants

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Cuticle micromorphology of leaf epidermal cells of Korean ulmaceous plants was studied with scanning electron microscope. Outer and inner surfaces of cuticle of ad- and abaxial epidermis of 15 species were investigated micromorphologically. Mainly observed characters of both surfaces were cell shapes, sculpture patterns of epicuticular wax, inner periclinal wall sculpture, anticlinal wall shape, shape of guard cell and associated subsidiary cells, and ledge size and polar extension of guard cell. Most of these characters have not been examined in sufficient detail previously. Grouping of 15 species based on the cuticular characters were established. And also it was found that this grouping was well coincided with current classification system.

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Cuticle Micromorphology of Leaves of *Pinus* (Pinaceae) from Mexico and the Mountains of Central America

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Cuticle micromorphology of 34 taxa of *Pinus* from Mexico and the mountains of Central America was studied with scanning electron microscopy and leaf morphology was described. In total, 29 characters, 22 from the inner cuticular surfaces and seven from outer surface, were described in detail. Characters relating to the periclinal wall texture of the epidermal cells, the shape and degree of development of the anticlinal walls of the epidermal cells, the basal and apical shapes of anticlinal epidermal cells walls and so on are particularly useful for infrageneric classification. The agreement between these characters and infrageneric classification is discussed. Characters relating to the end wall shapes of the epidermal cells, the relative length of epidermal cells, the shape of stomatal apparatus, the texture of guard and lateral subsidiary cell surface and so on contain some important information for identifying the Mexican pines. The distribution of the states of each character is compared with that of the Asian pines. Cuticular characters are used to help determine the affinities of taxonomically difficult taxa.