A216 Systematic Application of Pollen Morphology in the Genus *Silene* L. s. lat. (Caryophyllaceae-Sileneae) in Korea

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The pollen of 16 taxa (15 species and 2 forma) in the genus of *Silene* L. s. lat. (including the genera, *Lychnis* L., *Melandrium* Röhling., and *Silene* L. s. str.) in Korea was investigated by light microscopy and scanning electron microscopy. The pollen grains are monads, spherical or prolate-spheroidal in shape, and P = 33.9-61.6 ㎛, E = 33.9-57.6 ㎛ in size; aperture number is polyporate (10-46); the exine ornamentation is variable both in shape and size. Two types of ektexine structure can be recognized: Type I (tectate-punctate with microechinae) and Type II (semitectate-reticulate with microechinae). It is also possible to divide two pollen groups based on the aperture type, especially concerning the operculum (i.e., ring-shaped and disc-shaped). The pollen dimorphism (occurring both Type I and Type II) has been found in two taxa [*Melandrium firmum* (S. & Z.) for. *pubescence* Ohwi and *Silene repens* Pers.). In conclusion, it seems, however, the present palynological data of the Korean *Silene* L. s. lat. were not much useful for the delimitation among the taxa of *Silene* s. lat. (e.g., *Lychnis*, *Melandrium* and *Silene*), but it was somewhat useful for the interspecific classification. These pollen data, however, can support the recent proposed system of the genus *Silene* s. lat. in some degree [cf. Oxelman & Lidén TAXON 44: 525-542; Greuter ibid. 44: 543-581 (1995)]. - [Supported by a grant KOSEF 981-0513-068-2]

A217 The Taxonomic Significance of Leaf Micromorphology in the Genera *Polygonum* L. s. str. and *Polygonella* Michx. (Polygonaceae, Polygoneae)

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Leaf micromorphological features of the representatives of *Polygonum* L. s. str. and *Polygonella* Michx. (42 species including 1 ssp. and 3 varieties) have been studied by mainly scanning electron microscopy. The leaves are amphistomatic. The anisocytic stomata are the most frequent type, but rarely anomocytic or paracytic stomata are also found. The guard cells are 10-25 ㎛ in size, and subsidiary cell number varies from two to four. The stomata are slightly sunken below the epidermis. The epidermal cell (20-80 ㎛ in size) outlines are mostly straight polygonal or rarely slightly undulating [in *Polygonum* sect. *Polygonum* and *P.* sect. *Tephis* (Adans.) Meisn.], straight elongated [in *P.* sect. *Pseudomollia* Boiss.], and mostly undulate or rarely straightly polygonal [in *Polygonum* sect. *Duravia* S. Wat. and *Polygonella*]. The cuticle mostly shows a longitudinal striations, or is more or less smooth in most of the studied taxa, except in *P.* sect. *Tephis* where the surface is showing spirally arranged outer stomatal rims and striate sculpturing. The unicellular, conical trichome (similar to the Haraldson's 'TYPE VII') is present in several taxa of *P.* sect. *Tephis* and *P.* sect. *Duravia*). In conclusion, leaf micromorphological features may have utility for additional phylogenetic study. [Supported by a grant KRF 1997-001-D00332].