Pollen Morphology of Section *Camellia* in Genus *Camellia*

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Observation of pollen morphology is an effective method when researching plant classification and evolvement. Pollen morphology is not readily affected by environmental factors and developmental stages; the exterior of the pollen grain continues to represent its genotype. The pollen morphology of 28 species and one variety of sect. *Camellia* in the genus *Camellia*, based on Chang's taxonomic system, was observed under light microscopy (LM) and scanning electronic microscopy (SEM). The results indicate the pollen size of sect. *Camellia* is large. The average length of its longitudinal axis ranges from 48.2 to 72.1 μm. The shape of its regular pollen is usually prolate or perprolate, though a few species express a subprolate shape. Some irregular pollen grains were observed in species *C. brevipetiolata*. From longitudinal views, regular pollen grains were trilobate-circular, trilobite semi-circular, and trilobite, but ovate to ellipse from transverse views. Trema is tri-colp-orate. Four major exine sculpture types, rugulate-fossulate, rugulate-ripple, rugulate-ripple to granutate, and granulate were observed. The differences of exine sculpture provide important information for plant classification and evolution. Pollen characteristics support the combination of *C. liberistamina*, *C. crassissima* and *C. chekiangoleosa* into one species, called *C. chekiangoleosa*, and *C. lapidea*, *C. villosa* and *C. delicata*system into another species, called *C. mairei*. Other arguable species, such as *C. brevipetiolata*, *C. bailinshanica* and *C. brevicolumna* should be independent species based on the pollen evidence. Pollen morphology also concluded that sect. *Camellia* is a natural group.