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Opal phytoliths are silica deposits formed in cells or intercellular spaces. As with any plant taxa, they show a morphological variety which has diagnostic value for the classification and identification of plants. Opal phytoliths are also stable components of sediment horizons and thus can be used as valuable microfossils for ethnobotany and paleobotany. Opal phytolith production is widespread in both monocotyledons and dicotyledons. However most attention has been paid to the grass phytoliths, which are the representative silica accumulating plants. Phytolith analysis of dicotyledons has largely been ignored, thereby creating a void in phytolith classification.

It has been reported that ulmaceous plants produces sificified cystoliths. This fact strongly implies that distinctive opal phytoliths could be produced from umlaceous plants. However detailed study on opal phytolith production of Ulmaceae has not been studied yet.

This study describes opal phytoliths isolated from the leaves of 16 species of Korean ulmaceous plants. Distinctive types of opal phytoliths are formed from cystoliths, guard cells, trichomes and their bases, tracheary and epidermal tissues. They also seem to show feasibility on the infrafamilial classification of Ulmaceae.