

## **Seed morphology and coat anatomy of five taxa of *Mimosa* (Leguminosae-Mimosoideae) occurring in Mexico.**

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The genus *Mimosa* has approximately 530 species worldwide, of which 110 are distributed in Mexico [1, 2]. In order to contribute to the taxonomy of the genus, the morphology of the seeds of some species of the subfamily Mimosoideae has been studied [3]. However, the anatomy of the seeds of many of them is still unknown. Therefore, the objective of this study was to describe and analyze the seed morphology and the seed coat anatomy of five *Mimosa* taxa occurring in Mexico. Eight plants of each of five taxa with similar height and coverage were collected. All the ripe fruits were collected immediately afterwards and their seeds were extracted; only those that appeared healthy and mature seeds were used. The variation range was considered for morphology but for anatomy only those seeds that had with similar weight were chosen. Seed coat and cotyledons were separated and fixed in FAA and in 2% glutaraldehyde. Tissues were processed for paraffin and resin (LRWhite, London) embedding. For Scanning Electron Microscopy (SEM), dry tissues were gold coated and observed with a JEM 6390 SEM (JEOL, Japan) at 10 kV. The hard testa was fractured to show the structure of the head seed. All taxa studied have a remarkable and similar fissure line, but other characters may differ among species. For example: arm's length is variable, it may run along the seed or restricted to the fissure line; the lens is circular to oval; the micropyle can appear as a small sunken hole or prominent; and the thread region may have traces of funiculus. Anatomically, the testa can show one or two sclereids layers: one layer of macrosclereids and another of osteosclereids. All taxa have external prominent cuticle and vitreous endosperm, which prevent initial germination, increase longevity and are the probable cause of seed impermeability. Besides, the presence of more than one layer in the seed coat is probably an adaptation to the arid and semiarid environments, where the taxon is established and also for protection, since the seeds are infested by bruchids [4].

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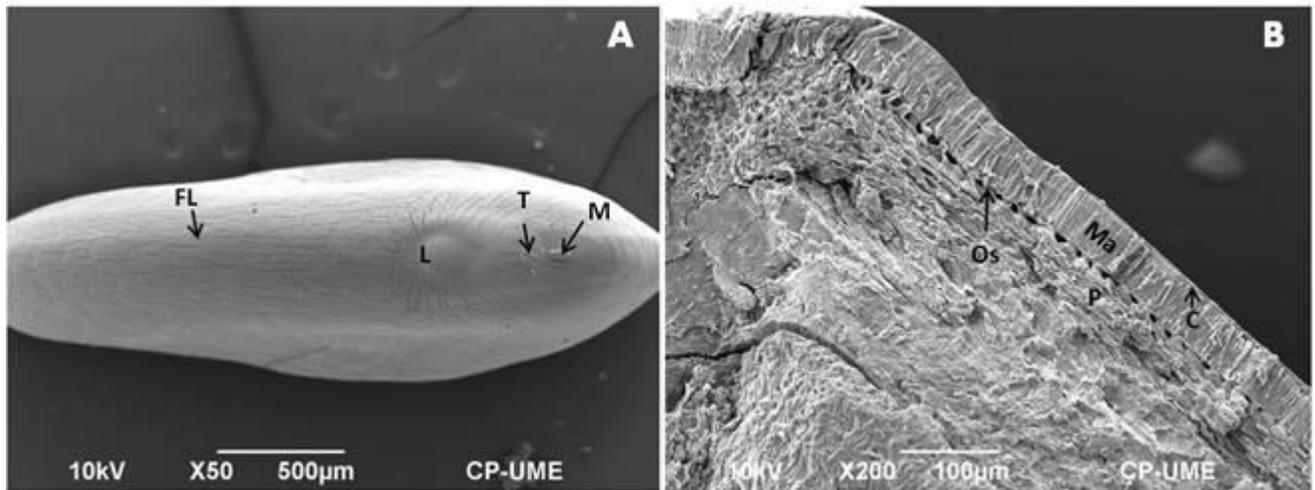


Fig. 1. SEM pictures of external morphology and internal anatomy of *Mimosa* taxa. A: whole seed of *Mimosa aculeaticarpa*; B: seed coat anatomy of *Mimosa luisana*. C: cuticle, L: lens, FL: fracture line, M: micropyle, Ma: macrosclereids, Os: osteosclereids, P: parenchyma, T: thread.

## References

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