



## Histo-anatomical and peculiarities of the aerial vegetative organs in *Pulmonaria officinalis* L. and *Pulmonaria rubra* Schott.

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The purpose of this work was to characterize the stem and leaf anatomy from two medicinal species from *Pulmonaria* genus. The stem has an elliptic shape, with ribs, in transverse and primary structure in both analysed species. The epidermis is uniseriate and has numerous trichomes, both non-glandular and secretors, especially in *Pulmonaria rubra*. The glandular ones are capitate; they have short or long multicellular stalk and unicellular head. The non-glandular trichomes are unicellular with very thick walls and coated with granular cuticle. The xylem vessels have radial distribution in *Pulmonaria officinalis* and an irregular one in *P. rubra*. The xylem parenchyma is transformed in collenchyma in *P. officinalis* stem, especially in the medullar area. The leaf epidermis, in surface view, has epidermal cells with sinuous contour, more evident on the abaxial surface. In cross section, the single-layered epidermis is covered with a thin cuticle. Anomocytic stomata occur on the lamina, predominantly on the abaxial side, and they are slightly raised above the other epidermal cells. The palisade parenchyma is unilayered, followed by one or two layers of collecting ramified cells, with different shapes in the two analyzed species.