

ANATOMICAL STUDY OF EUCALYPTUS CAMALDULENSIS LEAVES

Neemat Hallage, Kuznietsova V.Yu., Tartynska G.S.

National University of Pharmacy, Kharkiv, Ukraine

Introduction. Eucalyptus genus is one of the world's most widely planted genera. This genus includes more than 700 plant species that belong to the family Myrtaceae [2]. Two Eucalyptus species have been recorded as naturalized in Europe – Eucalyptus camaldulensis and Eucalyptus globulus. European Pharmacopoeia have been included Eucalyptus globulus leaf and Eucalyptus oil from Eucalyptus globulus Labill, Eucalyptus polybractea R. T. Baker and Eucalyptus smithii R. T. Baker [1, 3]. Eucalyptus camaldulensis Dehnh. was selected for pharmacognostic study, because it has been little studied and has not been included in European Pharmacopoeia and State Pharmacopoeia of Ukraine. The aim of our work was to study anatomical structure of Eucalyptus camaldulensis leaves in order to identify diagnostic features.

Materials and methods. Fresh and air-dried material were used for the analysis. Micropreparates were prepared and were investigated according to generally accepted methods; they were studied using the microscope "Biolam" with 60-400 times increase. Diagnostic features were photographed with the camera "Digital camera for microscope DSM 300" (USB 2,0), resolution 3M pixels. The resulting photos were processed using computer software "Adobe Photosope 7.0" [4].

Results and their discussion. The base anatomy-diagnostic features were determined in Eucalyptus camaldulensis leaves. Microscopic analysis was conducted in the cross-section of the Eucalyptus camaldulensis leaves. The size of the epidermal cells was small; the outer walls of the epidermal cells were much thicker. There was a thin cuticle layer over the epidermis. The cells of palisade parenchyma was elongated, arranged strictly in tree rows. Sponge parenchyma cells were narrow and contained small intercellular spaces. Small and circular schizolysigenous essential oil reservoir in palisade tissue were few and often close to the upper epidermis. Sclerenchyma and vascular bundles were prominent and vascular bundle in the midrib is heart-shaped. There were a few number of calcium oxalate crystals and druses and crystals were not aligned regularly.

References:

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