SECOND INTERNATIONAL CONFERENCE «INTEGRATION NETWORK OF THE PHARMACEUTICAL ECOLOGY - 2025»

AMBROSIA ARTEMISIIFOLIA: MICROSCOPIC EXAMINATION

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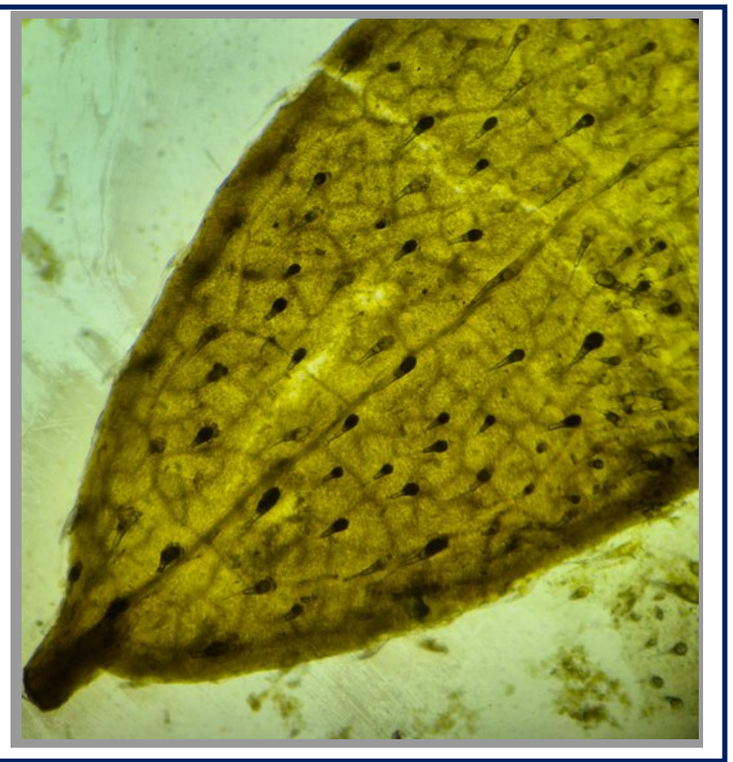
Purpose: clarification of diagnostic features (anatomical and morphological structure) of *A. artemisiifolia.*

Goals:

1) To conduct an informational and analytical study of scientific literature on the topic.

2) To identify characteristic microscopic features.



Pictures 1, 2, 4. The trichomes on the stem base are wide, pyramidal, multicellular (base consisting of 3 cells), and pointed. (x40).

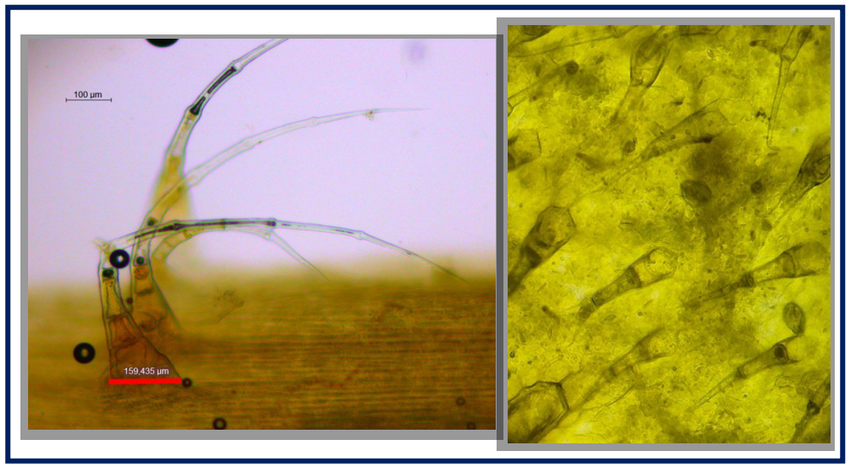
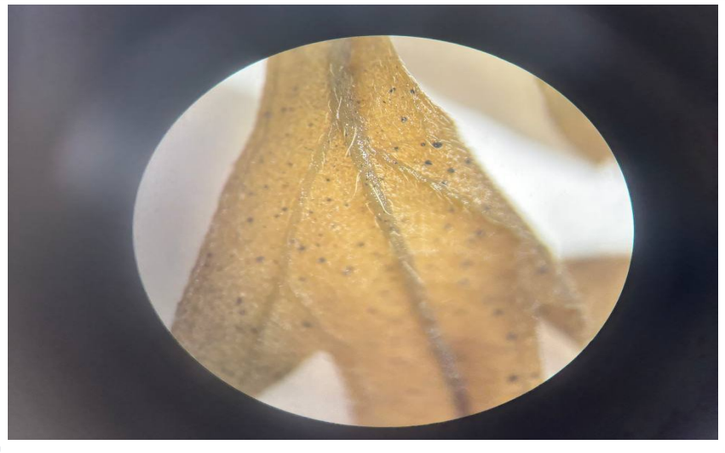
Picture 3. Anomocytic type of stomatal apparatus (the number of subsidiary cells is variable, and their structure is similar to that of the main epidermal cells). The trichomes consist of 3(4)–6 short thin-walled cells. They are observed above and between the veins, with a frequency of occurrence of 3–9 per 1 mm2

Conclusions

Characteristic diagnostic microscopic features of the structure of epidermal cells of *A. artemisiifolia* leaves have been identified, including epidermal cells, stomatal apparatus cells, and trichomes. Their sizes have been determined.

These criteria can serve as additional criteria for identifying this particular species and its pharmaceutical plant raw materials (grass, leaves). They can also be used to identify impurities in pharmaceutical plant raw materials.

Materials and methods:

The objects of study were plant material from the roots, stems, and leaves of *A. artemisiifolia*, fixed in 70% ethanol.

A LOMO MIKMED-5 binocular microscope and a Leica DM2500P microscope were used for microscopy. Photographs were taken using the Leica aplication software at low (x40) and high (x100) magnification.