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Review article

DETERMINATION OF SOME SPECIES OF THE GENUS ACER L. (ACERACEAE), WIDESPREAD IN SHARR MOUNTAIN, IN NORTH MACEDONIA, BASED ON THEIR BUDS

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Abstract

This study is based on the research of the morphological differences of the buds of the three most widespread species of the genus *Acer* L. (*Aceraceae*) in Sharr Mountain, in the Republic of North Macedonia: *Acer campestre* L., *Acer platanoides* L., *and Acer pseudoplatanus* L. This method is based on the position of the buds, their shape, size, color and morphology and is important for the determination of these species, in the period of leaf fall and before their flowering.

Keywords: Acer sp., buds, North Macedonia.

1. Introduction

The most widespread species of the genus *Acer* L., in Sharr Mountain, in North Macedonia, are *Acer campestre* L., *Acer platanoides* L., and *Acer pseudoplatanus* L., (Xhulaj, M., 2015, Haziri, A., 2019, 2022). During the leafing and flowering period, these species are characterized by certain morphology of the leaves and by the characteristic construction of their flowers. Some of the most important characteristics of these species, during the leafing and flowering period, are presented below (Micevski, K., 2005, Demiri, M., 1983, Qosja, Xh. et all., 1992). *Acer campestre* L.

Morphological characteristics: shrub or tree 15 - 20 m long, yellow-green flowers gathered in vertical panicles (May). Leaves are always less than 10 cm long, with 3 - 5 pointless lobes. Full-margined leaf lobes are separated by deep sinuses (sharp, blunt). The leaves are nearly as broad as they are long, and the lobes are entirely margined (Fig. 1).

Acer platanoides L.

Morphological characteristics: The tree is 20 - 30 m long, and the yellow-green flowers have a diameter of 1 cm and even less, in erect pseudocorymbs (April - May). Leaves simple, opposite, palmate, five-lobed, each lobe with 5 - 7 strong and mostly clearly pointed denticles, ending in a point almost always long. The creek between the lobes of the leaves is almost always rounded (Fig. 2).

Acer pseudoplatanus L.

Morphological characteristics: 15 - 30 m long tree, yellow-green flowers, grouped in hanging clusters, 5 - 15 cm long. Flowers are usually much smaller than 1 cm. (May - June). Leaves 5 lobed, dentate - crenate, never provided with long spikes. Sinuses between pointed leaf lobes (Fig. 3).

2. Material and Methods

The method applied for the conduction of this study is based on the position of the buds, their shape, size, color, and morphology and is important for the determination of these species, in the period of leaf fall and before their flowering. The applied technique is based on the comparative morphological method.

3. Results and Discussion

Determination of these species, in the period of leaf fall and before their flowering, is based on the construction and morphology of their buds (Šilić, Č., 1983, Tatić, B., Blečić, V., 1996).

Acer campestre L.

One-year-old branches are covered at the top with a powdery powder. The bark of the oldest branches with suberised strips. Trunk bark with retiform cracks. Oval buds, thin and with very short hair, small (about 5 mm) (Fig. 1-a).

Figure 1. *Acer campestre* L., a. small buds, about 5 mm.

Acer platanoides L.

Trunk bark with long fissures. Oval, glabrous, large (1-1.5 cm) buds. More numerous scales in the large terminal buds than in the lateral ones, red-brown (Fig. 2-a).

Figure 2. *Acer platanoides* L., a. red-brown buds, 1–1.5 cm.

Acer pseudoplatanus L.

Tree. Gray, smooth, scaly bark. Oval, oblong buds. Approximately equal number of scales in the terminal and lateral buds, lower slightly keeled green or brown, often with a hairy margin. Terminal buds 1.2-1.8 cm long (Fig. 3-a).

Figure 3. *Acer pseudoplatanus* L., a. lateral and terminal buds, 1.2 – 1.8 cm.

4. Conclusions

Based on what was said above, we can conclude that determining these species based on the morphology of their buds, is an important method for their classification during the period of leaf fall and before their flowering.

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