STUDY OF THE BLACK SEA OLIVE (ELAEAGNUS ANGUSTIFOLIA)

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Relevance: Elaeagnus angustifolia, also known as jida, is a species of oleaster found in Uzbekistan. Its leaves, seeds, and flowers, along with its fruits, contain a complex of biologically active substances.

The valuable medicinal and prophylactic properties of the black sea buckthorn have long been known in folk medicine in many countries of Asia and the Caucasus. The fruits of local species are used to treat gastrointestinal diseases due to their astringent, anti-inflammatory, and enveloping properties. They are also used as an expectorant (for bronchitis), diuretic (for ascites and edema), antihelminthic, and vitamin supplement. An infusion of the fruits exhibits hypotensive and mild analgesic effects. In Central Asia, baby food is prepared from pericarp powder. Residents of Sakhalin use decoctions and infusions from dried oleaster fruits (Elaeagnus multiflora Thunb.) as a tonic and for gastrointestinal ailments.

Objectives: Morphological and anatomical analysis of Elaeagnus angustifolia:

This tree or woody shrub with silvery leaves and flowers grows in riparian forests and along watercourses. The leaves, which do not fall in winter, are leathery, broadly elliptical or ovate, with wavy margins, nearly glabrous above, and silvery beneath with brown dots from peltate hairs. The perianth lacks a nectary disc, with nectaries in the form of glandular tubercles alternating with stamens. Flowering occurs in autumn. Young shoots are brownish from brownish peltate hairs. Usually a thorny shrub up to 3 m. Flowers up to 10 mm long and 5-10 mm in diameter, white, on pedicels 15-30 mm long. Fruits are juicy, ellipsoidal, 10-15 mm long, red. Leaves are usually green on top. Often forms thorns. Flowers on short pedicels. Spines are absent. Perianth white (turns yellow when fading), 5-6 mm long, lobes are narrowly lanceolate 2.5 times shorter than tube, with 1 longitudinal vein, stylodium slightly longer than perianth. Fruits are small (19.78 x 13.75 mm), juicy, red, oblong-cylindrical. The inner surface of the calyx is yellow or orange. The leaf blade is very soft to the touch and pubescent on both sides. The fruits are dry, the mesocarp is mealy. The fruits are usually 10-15 mm in diameter, broadly ellipsoidal. The leaves on flowering and fruiting branches are narrowly elliptic or lanceolate, often green above, with scattered stellate hairs; peltate hairs are often absent. The perianth is funnel-shaped, 5-6 mm long; the lobes are broadly lanceolate to subovate, slightly shorter than the tube, with 3 longitudinal veins; the stylodium is nearly as long as the perianth; the disk is cylindrical.

Anatomical analysis of the narrow-leaved oleaster: At the roots, in the absorption zone, there is primary xylem of the diarch type. The cells of the nodule are structurally indistinguishable from the cells of the root cortex; this tissue contains numerous highly expanded cells that harbor nitrogen-fixing microorganisms. Mature pollen grains vary in shape and size (from 0.1 to 0.15 μm). All are rounded, with a folded tectum surface, forming protrusions around three apertures, giving the pollen grain a seemingly rounded-triangular shape. Interspecific differences were found in the cross-sectional shape and vascular elements of the petioles, the epidermis on the surface of the leaf blades, and the presence of particularly thickened, pigmented, large, corymbose (peltate) hairs. The isolateral leaf structure of the sea buckthorn (Oleaster acanthus) has submerged stomata and highly convoluted cells on both the underside and upper surface of the leaf.

Conclusion: This plant grows in many species in our country, and we can use them because of their anti-inflammatory, antiviral, and antipyretic properties. It can be used for colds as an expectorant and tonic. The ingredients in the product reduce pain and help with inflammatory gastrointestinal conditions. The flowers are used for heart disease and edema, and the leaves are used as an anti-inflammatory and wound-healing remedy for rheumatism and gout. Sea buckthorn honey also has medicinal properties.