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Astragalus ketmentubensis (Fabaceae), a new species from Kyrgyzstan

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Keywords: *Astragalus fedtschenkoanus*, *Astragalus vassilczenkoanus*, Ketmen-Tyube Depression, plant diversity, section *Dissitiflori*, Western Tian Shan.

Summary. The paper provides a description of a new species of *Astagalus* L. section *Dissitiflori* DC. (Fabaceae) from Kyrgyzstan. Section *Dissitiflori* (= sect. *Xiphidium*) is a difficult taxonomic group distributed from Southern, Central and Eastern Europe to Altai and Siberia and from Western to Middle, Central and Southern Asia, includes near 200 species, with hotspots in Iran and Middle Asia. *Astagalus ketmentubensis*, sp. nov., belongs to the affinity of *A. vassilczenkoanus* Golosk. and *A. fedtschenkoanus* Lipsky. First of them is a narrow endemic to Kyrgyz Mt. Ridge and second one is distributed from Chu-Ili mountains (Kazakhstan) to northern Pamir-Alai (Alai and Turkestan Mt. Ridges), while *A. ketmentubensis* is a rare plant of vicinity of Ketmen-Tyube Depression (Western Tian Shan).

Astragalus ketmentubensis (Fabaceae) – новый вид из Кыргызстана

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Ключевые слова: Западный Тянь-Шань, Кетмень-Тюбинская котловина, секция *Dissitiflori*, *Astragalus fedtschenkoanus*, *Astragalus vassilczenkoanus*.

Аннотация. Статья содержит описание нового вида астрагала из секции *Dissitiflori* DC. (Fabaceae) из Кыргызстана. Секция *Dissitiflori* (= sect. *Xiphidium* Bunge) – сложная таксономическая группа, распространённая от Южной, Центральной и Восточной Европы до Сибири и Алтая и от Западной до Средней, Центральной и Южной Азии, включающая около 200 видов, с центрами разнообразия в Иране и Средней Азии. *Astagalus ketmentubensis*, sp. nov., относится к родству *A. vassilczenkoanus* Golosk. и *A. fedtschenkoanus* Lipsky. Первый – узкий эндемик Киргизского хребта, а второй встречается от Чу-Илийских гор (Казахстан) до северного Памиро-Алая, тогда как *A. ketmentubensis* – редкое растение, обитающее в окрестностях Кетмень-Тюбинской котловины (Западный Тянь-Шань).

Introduction

The genus *Astragalus* L. is the largest among vascular plants and includes up to 3000 species. Section *Dissitiflori* DC. (= *Xiphidium* Bunge), according to modern data, contains about 200 closely related species, mainly distributed from Southern, Central and Eastern Europe to Siberia and Altai and

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from Western to Middle, Central and Southern Asia, with hotspots in Iran and Middle Asia (Podlech et al., 2013).

About 200 (190) species of the genus *Astragalus* have been recorded in Kyrgyzstan, of which 26 belong to the section *Dissitiflori* (Lazkov, Sultanova, 2011). In recent decades, many new species of the section *Dissitiflori* have been described from Turkey (Podlech, Aytaç, 1998), Iran (Ghahreman et al., 1996), etc. In the Middle Asia, apparently, the diversity of this section has not been fully revealed. This is confirmed by the discovery of a new species in variegated crop habitats around the Ketmen-Tyube Depression. Despite the flora of Ketmen-Tyube Depression is relatively well studied, this species was found for the first time in April 2025 in the vicinity of the Torkent village in flowers and second time in the same place in fruit. Up to now, one more species, *A. lavrenkoi* Kamelin (from another section but having the same habitat and distribution) has been described from Ketmen-Tyube Depression (Kamelin, 1981).

Materials and methods

Herbarium materials of the genus *Astragalus*, including type materials stored in the herbaria FRU, LE, TASH, as well as observation in nature were used. When identifying a new species, the classical morphologic-geographical method was used, based on the study of morphology superimposed on the distribution of taxa.

Results and discussion

Astragalus ketmentubensis Lazkov, **sp. nov.** (Sect. *Dissitiflori* DC.) (Fig. 1, 2).

Description. Subshrub with a highly lignificated, usually recumbent stem. The bark of old branches grayish brown. Annual branches 3–5 cm long, more or less densely covered with black, in upper part with an admixture of white subpatent, symmetrically to asymmetrically bifurcate hairs. Stipules 3–5 mm long, narrowly triangular or lanceolate, at base short adnate to petiole, ± densely covered with white and black hairs. Leaves 3–5 cm long; petiole 0.1–0.3 cm long, with rachis sparsely white hairy. Leaflets in 3–6 pairs, lanceolate or linear-lanceolate, 12–18 × 1.5–3.0 mm, closely located on rachis, acute, sparsely covered at both sides with white medifixed subpatent hairs. Peduncles in the axils of upper leaves, 5–12 cm long, hairy. Racemes rather densely 5–9-flowered, during the anthesis and at fruiting time not elongated. Bracts 2–3 mm long, narrowly triangular, black hairy. Pedicels 0.5–1 mm, hairy, erect. Calyx 10–12 mm long, narrowly tubular, slightly obliquely cut at the mouth, densely covered with symmetrically to asymmetrically bifurcate, subappressed, often slightly flexuous white and black hairs; teeth narrowly triangular-acuminate, 2.0–3.0 mm long. Standard 21–23 mm long; blade on the edge slightly curved upward, 12–13 mm long, 7–9 mm wide, ovate, emarginate, constricted in the place of transition to claw. Claw 8–10 mm long, cuneate, gradually narrowed at the base. Wings 17–18 mm long; blades oblong, obtuse, 7–9 × 2–2.5 mm; auricle 1 mm. Keel 15–16 mm long; blades 6–7 mm long, 2.0 mm wide, subobtuse; auricle short, triangular, claw 9–10 mm long. Stamen-tube obliquely cut at the mouth. Ovary linear, white hairy; style glabrous. Legumes obliquely erect, narrowly linear, straight or falcate, 8–10 cm long, 1.2–1.8 mm wide, slightly keeled ventrally, slightly grooved dorsally, long acuminate, with a style 5–6 mm long, densely covered with adpressed bifurcate white and black hairs.

Typus: "Kyrgyzstan, Jalal-Abad region, Toktogul district, southern slope of Sussamyr Mt. R., Zagyra mountains, near pass, clayey gypsum slopes, altitude 1100 m, N41.82161°, E73.18577°. 8 IV 2025. G. A. Lazkov" (LE 01309129, iso – FRU), with flowers.

Affinities. *Astragalus ketmentubensis* differs from *A. fedtschenkoanus* Lipsky by leaflets in number 3–6 pairs (vs. 6–8), from *A. vassilczenkoanus* Golosk. by leaves lanceolate or linear-lanceolate, 12–18 mm (vs. linear-lanceolate or linear, 30–50 mm). From both species it differs by subpatent pubescence of leaves (vs. appressed).

Paratypi: Same place. "10 V 2025. G. A. Lazkov" (AA, FRU, LE, MW, TASH), with fruits.

Distribution. The species is distributed on gypsum pedemonts surrounding Ketmen-Tyube Depression.

Etymology. The species was named after place of its growth – Ketmen-Tyube Depression.

Astragalus ketmentubensis is apparently a young endemic of the region surrounding Ketmen-Tyube Depression (Western Tian Shan), as *A. vassilczenkoanus* (western part of Kyrgyz Ala-Too), both are probably a result of separation from the more widespread species *A. fedtschenkoanus*.

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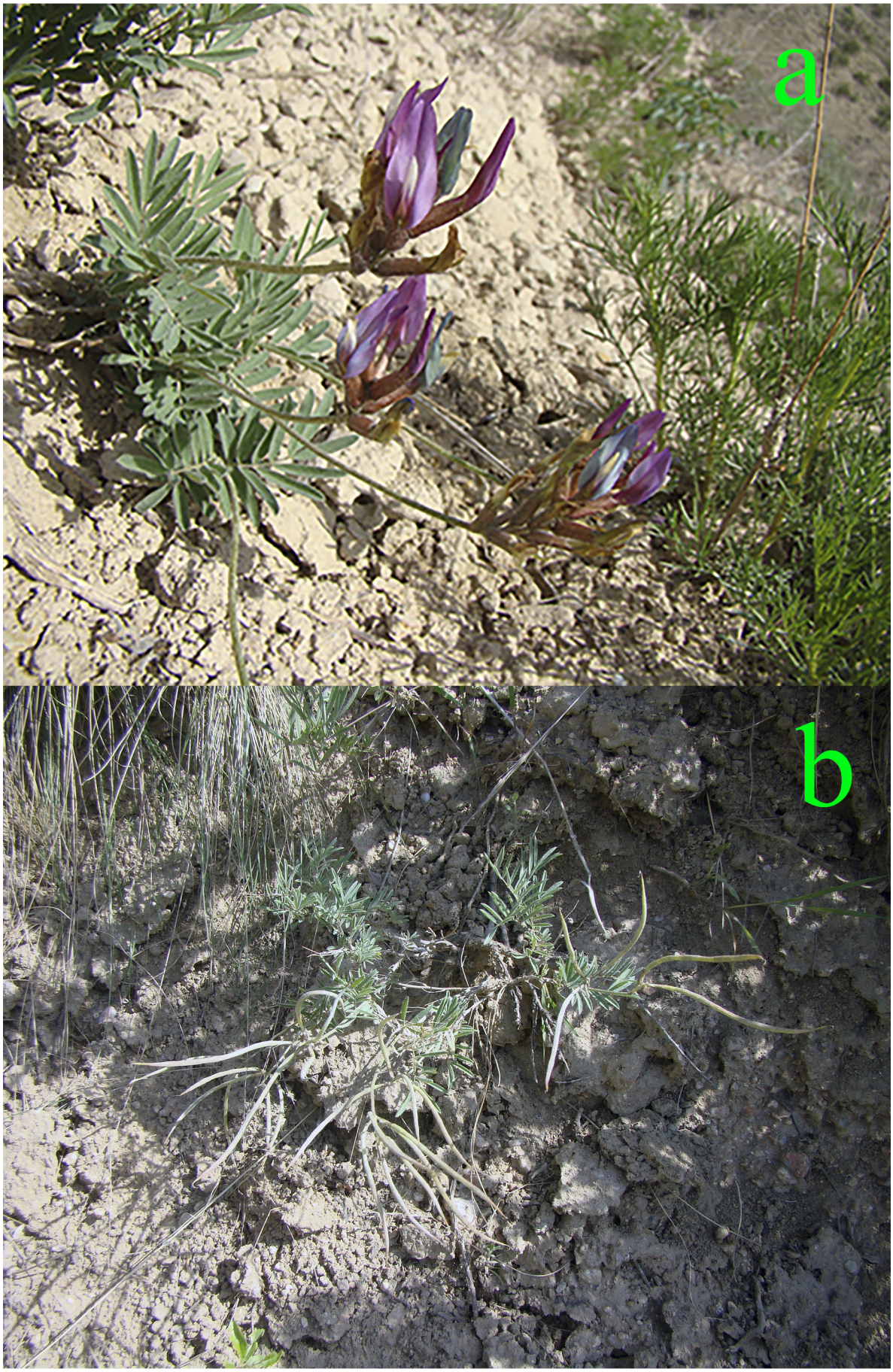

Fig. 1. *Astragalus ketmentubensis* (from type location): a – flowering plant; b – plant in fruits.

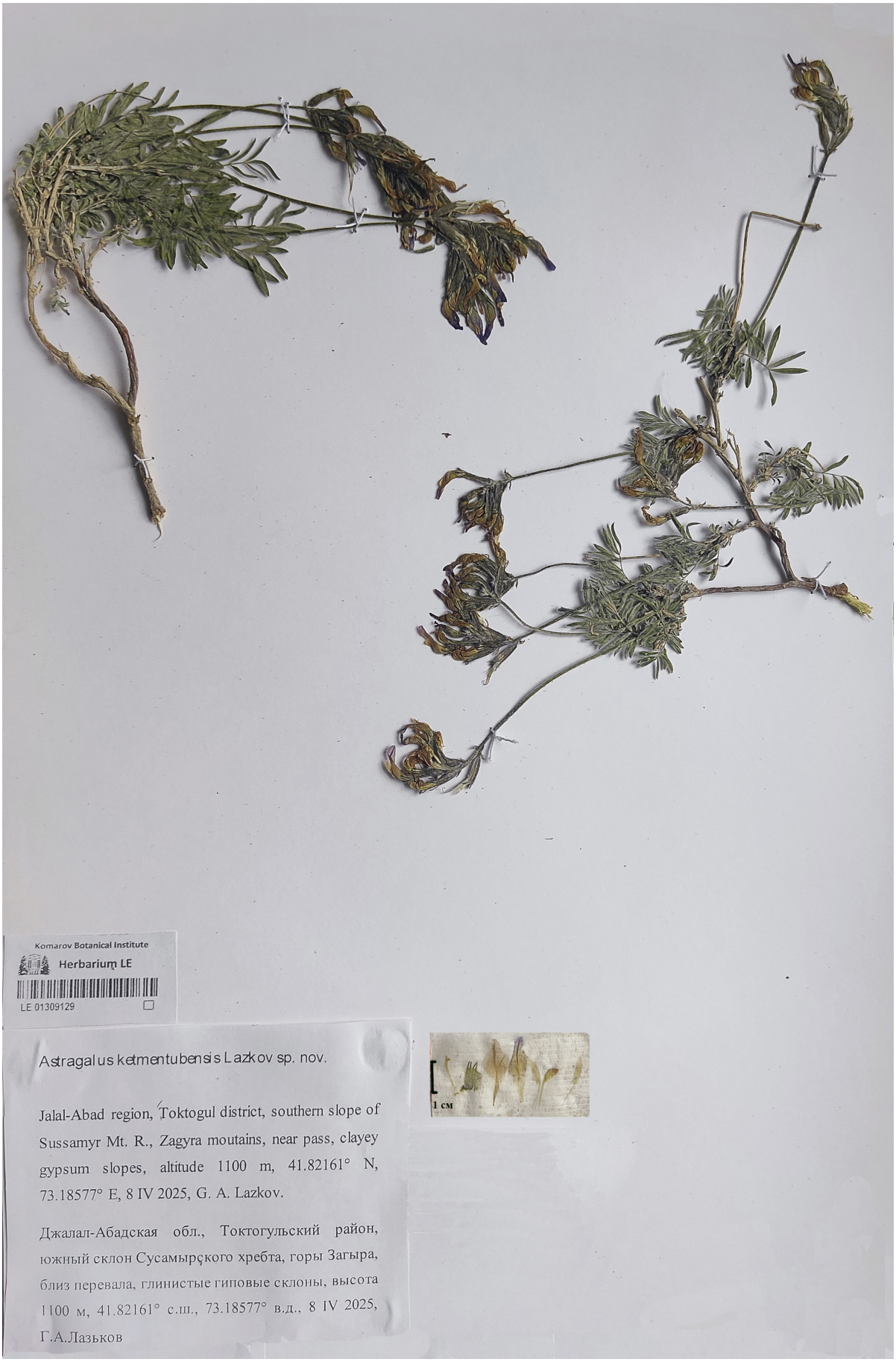

Fig. 2. *Astragalus ketmentubensis* (type specimen).

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