



I.G. OLSHANSKYI<sup>1</sup>, O.O. ORLOV<sup>2</sup>

<sup>1</sup> M.G. Kholodny Institute of Botany, National Academy of Sciences of Ukraine

2 Tereshchenkivska Street, Kyiv, 01601, Ukraine

olshansky1982@ukr.net

<sup>2</sup> Polisskyi Branch of G.M. Vysotsky Ukrainian Research Institute of Forestry and Forest Melioration

38 Myru Street, Zytomyr, 10004, Ukraine

orlov\_botany@gmail.com

## ***JUNCUS DICHOTOMUS* ELLIOTT (*JUNCACEAE*), A NEW ALIEN SPECIES FOR THE FLORA OF UKRAINE**

*Key words:* *Juncus dichotomus*, Juncaceae, Ukraine, floristic record

### **Abstract**

*Juncus dichotomus* is reported for the Ukrainian flora. This is an alien species of North American origin. Now in Ukraine *Juncus dichotomus* is known in Zhytomyr Region and Volyn Region. Diagnostic features and data on distribution of this species are presented.

We have re-examined the collected material of the genus *Juncus* L. in the Herbarium of M.G. Kholodny Institute of Botany (*KW*, National Herbarium of Ukraine) and identified an alien species new for the Ukrainian flora, *Juncus dichotomus* Elliott. In this article we present diagnostic characters of *J. dichotomus* and data on its current distribution in Ukraine and some other countries.

*Juncus dichotomus* Elliott, 1817, Sketch Bot. S. Carol. 1: 406; Kirschner & al., 2002, Sp. Pl. Fl. World, 8, 3: 32; *J. tenuis* Willd. var. *dichotomus* (Elliott) Alph.Wood. 1861, Class Book Bot.: 726.

— *Juncus dichotomus* var. *platyphyllus* Wiegand, 1903, Bull. Torrey Bot. Club, 30: 448; — *Juncus*

*platyphyllus* (Wiegand) Fernald, 1945, Rhodora, 47: 124.

Lectotypus (R.E. Brooks in Kirschner & al., 2002): [USA] Car. & Georg., S.E. Elliott (*CHARL*).

Perennial herb, 25–60(–100) cm tall, caespitose, rhizomes densely branched to short-creeping. Cataphylls 1–3, leaves basal or sub-basal, (1–)2–3, leaves 10–25(–40) cm long, (0.5–)0.7–1.0(–1.2) mm wide, nearly terete, canaliculate or flat; auricles 0.2–0.5(–0.6) mm, scarious to leathery. Lower bract leaf-like, 2.5–19 cm long, usually longer than inflorescence. Inflorescences terminal, (5–)10–85(–100)-flowered, congested to somewhat loose, (1.0–)2.5–10(–13) cm long. Bracteoles broadly ovate, membranous, 1.4–2.2 mm long, apex subobtusate to acute. Tepals subequal (outer ones often slightly longer), lanceolate, acute, (3.0–)3.3–4.5(–5.5) mm, central band green, later becoming stramineous to brown, margins indistinct, membranous. Stamens 6, filaments 0.6–1.2 mm, anthers 0.4–0.8(–1.0) mm long. Style 0.2 mm long, stigmas 1.0–2.0 mm long. Capsules shorter than or equalling perianth, tan to brown, 1-locular to pseudo-

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3-locular, ellipsoid to widely so, (2.5–)2.8–3.5(–4.5) mm long. Seeds brownish to amber, ellipsoid to lunate, 0.3–0.4 mm, not tailed.  $2n = \text{ca. } 80$ . (Brooks & Clemants, 2000; Kirschner & al., 2002).

*Juncus dichotomus* is morphologically similar to such species as *J. tenuis* Willd., *J. anhelatus* (Wiegand) R.E. Brooks & Whittem, and *J. dudleyi* Wiegand. *Juncus tenuis* and *J. anhelatus* are best distinguished by examining their auricles. In these species, the auricles are elongate, 2.0–6.0 mm long. *Juncus dichotomus* and *J. dudleyi* have short auricles, 0.2–0.5(–1.0) mm long. Those of *J. dichotomus* vary according to the texture, from scarious to coriaceous. Those of *J. dudleyi* are yellow-brown and cartilaginous. *Juncus tenuis* has seeds 0.5–0.7 mm long, anthers 0.1–0.2(–0.4) mm long, and flat to involute leaves. *Juncus dichotomus* differs in having smaller seeds 0.3–0.4 mm long, larger anthers 0.4–0.8(–1.0) mm long, and leaves commonly terete in cross-section. *Juncus dudleyi* differs in having larger anthers 0.6–1.0 mm long (Brooks, 2001; Kirschner & al., 2002).

*Juncus tenuis* is now a widespread species, both in North America and beyond its native range. *Juncus anhelatus* is native to North America, introduced in Great Britain and Belgium (Stace, 2010; Verloove, Lambinon, 2011). *Juncus dudleyi* is also native to North America, and reported as introduced from Great Britain, France, Belgium, Austria, and the Slovak Republic (Kirschner & al., 2002; Stace, 2010). *Juncus dichotomus* is widespread in the eastern and southeastern parts of the United States of America, and occurs scattered from Mexico to Argentina and Chile (Kirschner & al., 2002; Baslev, Zuluaga, 2009). *Juncus dichotomus* is introduced in Australia, New Zealand (Healy, 2000; Kirschner & al., 2002; Howell, Sawyer, 2006; Celsi, Monserrat, 2008), Belgium (Verloove, 2010; Verloove, Lambinon, 2011), Italy (Verloove, 2010; 2010a), the Russian Federation, and Belarus (Tikhomirov, 2013).

Three localities of *Juncus dichotomus* are currently known in Ukraine:

1. Ukraine, Zhytomyr Region, Olevskiy Disrt., Zhubrovychi villiage (15.08. 2007, G.A. Chorna KW 072063).

2. Ukraine, Zhytomyr Region, Baranivskiy Distr., Zeremlia villiage (31.07 2008, O.O. Orlov KW 083022).

3. Ukraine, Volyn Region, Lyubeshiv Distr., Velyka Hlusha villiage (08.08. 2013, O.O. Orlov KW 00107623)

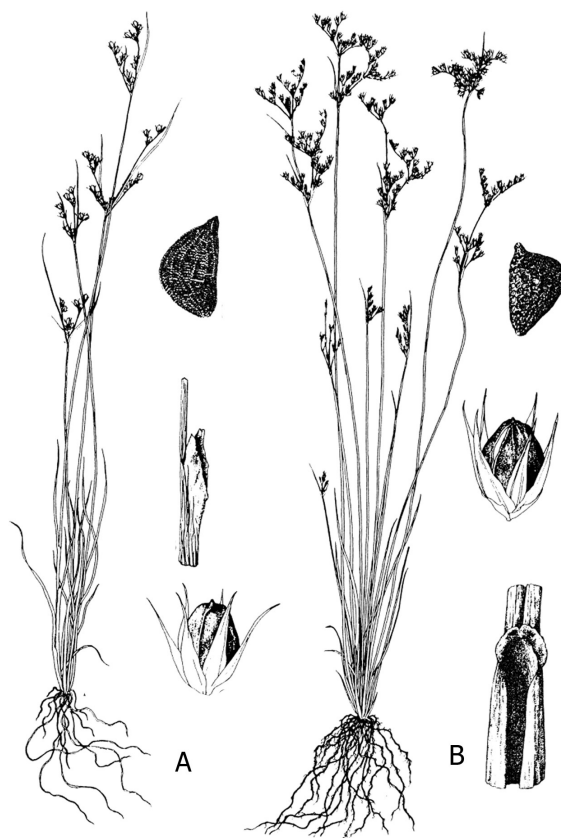


Fig 1. *Juncus tenuis* (A) and *Juncus dichotomus* (B) (Codfrey, Wooten, 1979)

One of the authors of this article (O.O. Orlov) has found *Juncus dichotomus* in Zeremlianske Forestry (state enterprise «Baranivske Hunting Forestry»). This species grows in the forest cutting in the association *Carpiniето-Quercetum Coryloso-Caricetum (brizoides)*. *Juncus dichotomus* occurred in one of these. Projective cover of vegetation was 15 %. Here grew *Juncus dichotomus* Elliott — 5 %, *Erechtites hieracifolia* (L.) Raf. ex DC. — 3 %, *Juncus bufonius* L. — 1–3 %, *Bidens triparta* L. — 1–3 %, *Peplis alternifolia* M. Bieb. — 1 %, *Gnaphalium uliginosum* L. — 1 %, *Potentilla erecta* (L.) Raeusch. — r.

In our opinion, *J. dichotomus* will have good prospects of further spread in Ukraine, especially its northern and central regions. Probably it already occurs in our country more widely than the known records indicate, but it is most likely overlooked by collectors because of its similarity to other taxa, especially *J. tenuis*.

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- И.Г. Ольшанский<sup>1</sup>, О.О. Орлов<sup>2</sup>  
<sup>1</sup> Інститут ботаніки імені М.Г. Холодного НАН України, м. Київ  
<sup>2</sup> Поліський філіал Українського ордена «Знак пошани» науково-дослідного інституту лісового господарства та агролісомеліорації імені Г.М. Висоцького, м. Житомир
- JUNCUS DICHOTOMUS ELLIOTT (JUNCACEAE) — НОВИЙ АДВЕНТИВНИЙ ВИД ФЛОРИ УКРАЇНИ**
- Наведено новий для флори України кенофіт північноамериканського походження — *Juncus dichotomus* Elliott, знайдений у Житомирській та Волинській областях. Подано його морфологічний опис та відомості щодо поширення.
- Ключові слова:** *Juncus dichotomus*, *Juncaceae*, Україна, флористична знахідка.
- И.Г. Ольшанский<sup>1</sup>, А.А. Орлов<sup>2</sup>  
<sup>1</sup> Інститут ботаніки імені Н.Г. Холодного НАН України, г. Київ  
<sup>2</sup> Полесский филиал Украинского ордена «Знак почета» научно-исследовательского института лесного хозяйства и агролесомелиорации имени Г.Н. Высоцкого, г. Житомир
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- Для флоры Украины приведен новый кенофит североамериканского происхождения — *Juncus dichotomus* Elliott, обнаруженный в Житомирской и Волынской областях. Представлены его морфологическое описание и сведения о распространении.
- Ключевые слова:** *Juncus dichotomus*, *Juncaceae*, Украина, флористическая находка.

Recommended for publication  
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