

Taxonomic and nomenclatural notes on *Luzula* subg. *Pterodes*

Taxonomické a nomenklatorické poznámky k zástupcům skupiny *Luzula* subg. *Pterodes*

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New taxa and combinations are given resulting from a revision of *Luzula* subg. *Pterodes* (Griseb.) Buchenau for the monographic treatment of *Juncaceae* for Species plantarum: Flora of the world. *Luzula jimboi* Miyabe et Kudo subsp. *atrotepala* Z. Kaplan, subsp. nova, and *L. plumosa* E. Mey. subsp. *dilatata* Z. Kaplan, subsp. nova, are described. Three new combinations, *L. forsteri* (Sm.) DC. subsp. *rhizomata* (Ebinger) Z. Kaplan, comb. nova, *L. acuminata* Raf. subsp. *carolinae* (S. Watson) Z. Kaplan, comb. nova, and *L. plumosa* E. Mey. subsp. *reflexa* (Ebinger) Z. Kaplan, comb. nova, are proposed for taxa with obvious geographically correlated variations. Identity of *L. cechica* Domin, a name proposed for the putative hybrid of *L. luzuloides* × *L. pilosa*, and that of a misapplied name *L. rostrata* Buchenau, is elucidated. Diagnostic characters of members of taxonomically difficult groups are given. Eight names are lectotypified.

Key words: *Luzula*, *Juncaceae*, Species plantarum: Flora of the world, taxonomy, new taxa, new names, nomenclature, typification

Introduction

An international consortium of specialists coordinated by J. Kirschner approaches to the final stage of preparation of a monographic treatment of *Juncaceae* for the “Species plantarum: Flora of the world” project. During the study, some new taxa have been recognized, and to meet the instructions for contributors (Orchard 1999), necessity to publish in a separate paper new nomenclatural combinations as well as proposals for formal rejection or conservation of several names emerged (Kirschner et al. 1999, Kirschner & Kaplan 2001a, b).

Several new findings have been made also in *Luzula* subg. *Pterodes* (Griseb.) Buchenau for treatment of which I am responsible. This resulted in reclassifications of some recognized entities and discovery of one new taxon. It was shown that another taxon was treated in the literature under a misapplied name. The most intricate taxonomic and nomenclatural problems are discussed and new names are validated here.

Variation in *Luzula forsteri* (Sm.) DC. s.l.

Although *L. forsteri* may be considered a variable species, the correlation of characters is imperfect when material from a geographically limited area is considered and that is why only a few infraspecific units have been proposed in the past. More recently, a few subspecies have been described from Spain by Montserrat-Recoder (1964). However, the morphological characters on which her taxonomic treatment was based do not hold when

Table 1. – Selected characters of three subspecies of *Luzula forsteri*.

	<i>L. forsteri</i> subsp. <i>forsteri</i>	<i>L. forsteri</i> subsp. <i>rhizomata</i>	<i>L. forsteri</i> subsp. <i>caspica</i>
Rhizome length (cm)	0 (–1)	1–9	1–8.5
Width of basal leaves (mm)	1.5–4	1.5–4	3–7
Tepal length (mm)	3.2–4.1	3.8–5.4	3.4–4.8
Anther length (mm)	0.6–1.2	0.9–1.9	0.8–1.3
Anther/filament ratio	0.7–2.2	(0.9–) 1.2–4.8	0.6–2.2
Seed/appendage ratio	1.9–4.7	1.1–3.3 (–4.3)	1.1–3.0
Distribution	from Great Britain, Portugal and NW Africa to Bulgaria, N Black Sea Coast and the Caucasus	from Greece to Turkey, Syria and Lebanon, eastwards to N Iran, northwards to Krym	between the Black and the Caspian Seas: NE Turkey, Georgia, the Caucasus, NW Iran

a large number of specimens is considered because the correlation of features given to distinguish the subspecies becomes very weak. In contrast to proposed subdivision, the most frequent character combination in the Iberian Peninsula is in fact the following: anthers slightly shorter to equalling filaments (a feature given for 'subsp. *cantabrica* P. Monts.') associated with ellipsoid seeds with short appendages (a character claimed for 'subsp. *catalaunica* P. Monts.'). Common occurrence of intermediate forms between and among extreme morphotypes prevents from distinguishing any satisfactory infraspecific taxa within this area. For these reasons all these morphotypes are included in *L. forsteri* subsp. *forsteri*.

In contrast to the variation pattern in the western Mediterranean, geographically correlated variation is found on a larger scale. This was first noted by Ebinger (1964) who distinguished rhizomatous plants from the eastern margin of the species distribution as a separate taxon *L. forsteri* var. *rhizomata* Ebinger. Novikov (1990) adopted the name *L. forsteri* subsp. *caspica* (Rupr. ex Bordz.) Novikov for broad-leaved plants with a more northern distribution.

From the more representative material it became obvious that besides the main characters given by the preceding authors each of the three taxa exhibit a unique character combination (Table 1). With respect to the geographical distribution of these three entities, the rank of subspecies is considered as the most appropriate. The necessary nomenclatural combination for one of them is made here:

***Luzula forsteri* (Sm.) DC. subsp. *rhizomata* (Ebinger) Z. Kaplan, comb. nova**

B a s . : *Luzula forsteri* var. *rhizomata* Ebinger, Mem. New York Bot. Gard. 10 (5): 289. 1964.

T y p e : Turkey, Prov. Cankiri, Distr. Ilgaz, Yaylacik, 1000 m., in *Pinus nigra* forest, 5 VI 1954, Davis 21536; holotype: K; isotype: K.

Identity of *Luzula cechica* Domin

The name *Luzula cechica* appeared for the first time in a checklist of Czechoslovak plants compiled by Domin (1935). No description or diagnosis were given but by means of the formula "*L. nemorosa* × *pilosa* Dom." he provided an indirect reference to his previously published work discussing this putative hybrid. However, in the respective paper dealing with floristics and plant sociology of the Brdy highlands (Domin 1926), only original site



Fig. 1. – *Luzula jimboi* subsp. *atrotepala* Z. Kaplan: overall appearance (S. Watanabe 32502, KYO, holotype).



Fig. 2. – *Luzula jimboi* subsp. *atrotrepala* Z. Kaplan: detail of inflorescence (S. Watanabe 32502, KYO, holotype).

of the plant is given but again without description. The name has been therefore never validly published.

The plant itself has recently been located at PRC. In its vegetative morphology it is essentially *L. pilosa*-like plant but the inflorescence consists of both flowers borne singly and a few flowers in groups of 2–3. This perhaps led Domin to consider the hybridization of *L. luzuloides* (Lam.) Dandy et E. Willm., a species with several-flowered clusters. The actual reason for this exceptional arrangement of the inflorescence structure is that the plant is infected by the parasitic fungus *Ustilago luzulae* Sacc. The name therefore belongs to the synonymy of *L. pilosa*:

Luzula cechica Domin, Preslia 13–15: 23. 1935, nom. inval. (“čechica”), pro hybr. *L. luzuloides* × *L. pilosa*

Authentic material: [Czech Republic, Bohemia] u Přebírami, 23 V 1920, Domin; PRC.
[= *Luzula pilosa* L.]

Rank of infraspecific subdivision of *Luzula acuminata* Raf.

The problem of identity of the Rafinesque’s name was discussed several times in the past (e.g. Jones 1951, Ebinger 1962, 1964). The history of these disputations has been recently reviewed by Kirschner & Kaplan (2001b) who preserved the current use of *Luzula acuminata* by designation of the neotype.

The species is subdivided in two taxa characterized by inflorescence differences (Ebinger 1962, Brooks et al. 2000). While the “northern form” with more or less simple inflorescence occupies large area from southeastern Canada between SE Manitoba and Newfoundland through northeastern USA southwards to Missouri and Virginia, with disjunct occurrence in Alberta, the “southern form” with compound inflorescence is confined to southeastern USA, between Massachusetts in the north and Louisiana and NW Florida in the south. With respect to this allopatric distribution in most of their ranges, both taxa are treated at the subspecies level. The following combination is therefore proposed:

***Luzula acuminata* Raf. subsp. *carolinae* (S. Watson) Z. Kaplan, comb. nova**

Bas.: *Luzula carolinae* S. Watson, Proc. Amer. Acad. Arts 14: 302. 1879.

- ≡ *Luzula acuminata* var. *carolinae* (S. Watson) Fern., Rhodora 46 (541): 5. 1944.
- ≡ *Juncoides carolinae* (S. Watson) O. Kuntze, Revis. Gen. Pl. 2: 724. 1891.
- ≡ *Luzula pilosa* var. *carolinae* (S. Watson) Boivin, Phytologia 42 (5): 411. 1979.

Type: North Carolina, Grandfather Mountain, VII 1841, A. Gray & J. Carey; holotype: GH.

Identity of *Luzula rostrata* Buchenau

Plants known under the name *L. rostrata* occur from central and northern Japan to Sakhalin and Kamchatka. Literature records from other territories, including as distant areas as Yunnan, China, and Darjeeling, India, proved to be erroneous.

Buchenau (1906) based *L. rostrata* on two collections from Japan: Faurie 2700 and Matsumura [s.n.]. Unfortunately, no authentic Buchenau’s specimen of *Luzula* subg. *Pterodes* has been recently located at W, where many gatherings of other subgenera of *Luzula* from his

herbarium are preserved now. Buchenau most likely kept his herbarium of *Juncaceae* arranged according to taxonomical relationships and all material of *Luzula* subg. *Pterodes* (a single fascicle?) seems to have burnt completely at the end of the World War II. This would explain why Japanese specimens of U. Faurie and S. Matsumura sent to Buchenau were destroyed in case of subg. *Pterodes* but are extant for subg. *Luzula*. Syntypes of *L. campestris* var. *pauciflora* Buchenau (now a synonym of *L. oligantha* Sam.), also collections of Faurie and Matsumura studied by Buchenau before 1906 as well, may serve as an example.

However, a duplicate of one of the syntypes of *L. rostrata* survived and has been recently discovered at KYO. Careful examination of the type proved that it is referable to another species currently known as *L. plumosa* E. Mey.

Luzula rostrata Buchenau in Engl., Pflanzenreich 25 (4): 47. 1906.

Type: Japan, [Honshu, Pref. Yamanashi] Fujiyama, 10 VI 1898, Faurie 2700; syntype: W, destroyed; lectotype: KYO, lectotype designated here; Japan, S. Matsumura; orig. syntype: W, destroyed.
[= *Luzula plumosa* E. Mey. subsp. *plumosa*]

The former name *L. rostrata* thus cannot be used for the species discussed here. The first available name at the rank of species is *L. jimboi* Miyabe et Kudo which must be now used for the species known as “*L. rostrata*”.

Misapplication of names and incorrect determinations of specimens have been frequent among E Asian material. Most herbarium specimens identified as “*L. rostrata*” actually refer to the northern form of *L. jimboi* (see below). However, also specimens of *L. plumosa* subsp. *plumosa*, and outside of Japan even of *L. rufescens* have been in part designated with that name. The source of these mistakes is in using unreliable features for determination. In the Japanese literature (e.g. Satake 1933, Meyer & Walker 1984), *L. jimboi* (as “*L. rostrata*”) and *L. plumosa* (incl. *L. japonica*) have been often distinguished mainly on the basis of anther/filament ratio. While the value “anther as long as or longer than filament” has been generally given for *L. plumosa*, “anther shorter than filament” has been claimed for “*L. rostrata*”. However, this simple distinction does not correspond to the material, as both *L. plumosa* and *L. jimboi* show considerable overlap in variation ranges of this character (anther/filament ratio in *L. plumosa* is 0.6–2.3, in *L. jimboi* 0.4–1.8). Both species are in fact best distinguished by the shape of cauline leaves, and tepal length also often serves as a useful character. The following key may be used for identification of the two species:

- (a) Cauline leaves linear-oblong, with $\pm$ parallel margins, to oblanceolate, broadest in the upper half, abruptly tapering at apex, the broadest cauline leaves 3.5–7 mm wide, 8–25 $\times$ longer than wide, apex abruptly cuspidate; tepals equal, 1.6–3.1 mm; plants stoloniferous, rarely subcaespitose, with stolons to 15 cm long *L. jimboi*
- (b) Cauline leaves narrowly lanceolate, broadest in the lower half, gradually tapering to apex, usually 2–4.5 mm wide, usually 20–50 $\times$ longer than wide, apex acute to mostly acuminate; tepals equal to subequal, 2.6–4.5 mm; plants caespitose or shortly stoloniferous, with stolons usually to 3 cm long *L. plumosa*

Luzula jimboi is divided in two subspecies based on geographically correlated morphological differences. The more widely distributed type subspecies occurs from northern Japan (northern and central Honshu, Hokkaido) northwards to Sakhalin and through the Kuriles to Kamchatka. The southern taxon is rarer, being restricted to higher mountain regions of central and rarely also of northern Honshu. It was called *L. rostrata* var. *rostrata* by Ebinger (1964) but now remains without a name. For this reason the following name is proposed here:

***Luzula jimboi* Miyabe et Kudo subsp. *atrotepala* Z. Kaplan, subsp. nova**

Descriptio: A subspecies typica tepalis badiis vel nigrescento-castaneis, plerumque 1.6–2.5 mm longis, marginibus vix membranaceis, antheris brevioribus rationes longitudinis filamentorum et carunculis seminibus plerumque 0.2–0.9 mm longis praecipue differt.

Type: [Japan, Honshu] Pref. Fukui, Katsuyama city, Obaratoge, 1250 m, 24 VI 1990, S. Watanabe 32502; holotype: KYO. (Fig. 1 and 2)

Perennial, 9–30 cm, glabrous, stoloniferous, rarely subcaespitose, with stolons to 8 cm long. Stem with numerous basal and 2–3 flat cauline leaves; basal leaves 2.5–13.5 cm × 1.5–4.5 mm, cauline leaves 5–10 cm × (2.0–) 3.5–5.0 mm, sparsely pubescent to subglabrous at margins, without a mucronate projection on callose tip. Inflorescence terminal, compound, rarely in a few plants simple, secondary/primary pedicel ratio (0.2–) 0.3–1.4; primary pedicels 5–12, erect to slightly nodding, rarely reflexed; flowers borne singly on primary or secondary pedicels. Basal bract to 3 cm long, shorter than inflorescence; bracteoles 0.9–2.1 mm long. Tepals equal, 1.6–2.5 (–2.8) mm, lanceolate, acuminate, entire, purple to blackish castaneous brown, without or with only narrow hyaline margins. Stamens 6; anthers 0.3–0.9 mm, ovate-linear, shorter than filaments, anther/filament ratio 0.4–0.9. Capsule ovoid, subtruncate to mucronate, distinctly exceeding tepals, stramineous to light brown. Seeds ellipsoid, 1.0–1.4 × 0.9–1.1 mm, with apical appendages 0.2–0.9 (–1.4) mm, seed/appendage ratio 1.4–6.0. (Fig. 1 and 2)

Additional specimens seen (paratypes): Japan: Honshu, Pref. Iwate, Prov. Rikuchyu, Isawa-gun, Wakayanagi-mura, Mt Yakeishi-dake, near summit, c. 1100–1400 m, 24 VII 1958, M. Furuse s. n. (S); Honshu, Pref. Nagano, Prov. Shinano, Kita-adzumi-gun, Hakuba-mura, Mt Shirouma-yari, c. 2900 m, 12 VIII 1949, M. Furuse 21220 (K); [Honshu] Prov. Kaga, [Ishikawa-ken] Mt Hakusan [=Shirayama], 19 VIII 1947, G. Nakai 3648 (KYO); [Honshu] Ecchu [=Toyama Pref.], Mt. Tateyama, Shishibana, 3 VIII 1931, Y. Mitabi s. n. (KYO); [Honshu] Ecchu [=Toyama Pref.], Mt. Tateyama, 25 VII 1928, Sakai s. n. (KYO); [Honshu] Ecchu [=Toyama Pref.], Kurobe, Oguro mine, 24 VII 1935, J. Ohwi 8151 (KYO); [Honshu] Iwashiro [=Fukushima Pref.], Mt. Iide, 22 VIII 1934, S. Suzuki s. n. (KYO); [Honshu, Nagano Pref.] Mt. Shirouma, alpine zone, 17 VIII 1922, Koidzumi 4147 (KYO); [Honshu, Nagano Pref.] Mt. Asahi, alpine zone, 20 VIII 1922, Koidzumi 4376 (KYO); [Honshu] Fukui Pref., Ono city, Mitsumine, 2000 m, 26 VII 1970, S. Watanabe 10259 (KYO).

Taxonomic structure within the group of *Luzula plumosa* E. Mey.

The group of *L. plumosa* is an extremely variable complex of taxa. Local populations often differ in range of quantitative characters from average values. However, mostly a reticulate pattern of the total variation together with frequent occurrence of intermediates between the extreme morphotypes often do not allow clear and workable delimitation of taxa. Only four main geographic entities may be distinguished as separate taxa (Table 2).

L. formosana Ohwi occupies the most outstanding position. It deviates from the variation pattern of *L. plumosa* in having capsules considerably exceeding tepals, shorter tepals, relatively long seed appendages and unusually short anthers. Specimens with this character combination have been found only in Taiwan.

Conspicuous broad-leaved plants of *L. plumosa* from mountainous regions of China were noted already by Ebinger (1964). Detailed examination of its morphology coupled with geographical delimitation warrant their treatment at the rank of subspecies:

***Luzula plumosa* E. Mey. subsp. *reflexa* (Ebinger) Z. Kaplan, comb. nova**

B a s . : *Luzula plumosa* E. Mey. var. *reflexa* Ebinger, Mem. New York Bot. Gard. 10 (5): 298. 1964.

T y p e : China, Prov. Hupeh, A. Henry 6316; holotype: GH, isotype: BM, GH, K.

N o t e : Holotype is claimed by Ebinger to be preserved at GH but only a specimen designated by him as isotype was located there recently.

Another group of outstanding populations have been found in southern part of Japan (southern Honshu, Shikoku, Kyushu). These plants show unique character combination, not observed in plants from other parts of the species' range, and are easily distinguishable from the local Japanese plants of *L. plumosa* particularly by having broad basal leaves, higher values of variation range of anther length, lower values of variation range of length of seed appendages, and often developed stolons. In contrast, Japanese plants of *L. plumosa* subsp. *plumosa* are narrow-leaved and almost exclusively caespitose. Japanese field botanists often noted the difference between these two taxa but misapplied the name *L. rufescens* for the plants of *L. plumosa* subsp. *dilatata*.

Table 2. – Selected characters of taxa of the group of *Luzula plumosa*.

	<i>L. formosana</i>	<i>L. plumosa</i> subsp. <i>plumosa</i>		<i>L. plumosa</i> subsp. <i>dilatata</i>	<i>L. plumosa</i> subsp. <i>reflexa</i>
		Continental populations	Japanese populations		
Plant height (cm)	9–37	mostly 6–25	mostly 6–22	15–38	17–41
Width of basal leaves (mm)	1.5–5	1.5–5.5	1.5–5	3–13	3–10
Stolon length (cm)	0–2	0–1 (–3)	almost always 0	mostly 1–11	0 (–1.5)
Inflorescence branching	simple to compound	simple to compound, very rarely slightly decompound with a few tertiary pedicels	simple to compound	compound, occasionally slightly decompound with a few tertiary pedicels	heavily compound to decompound with several tertiary pedicels
Secondary/primary pedicel ratio	0–0.6	0–1.0 (–2.5)	0.1–1.0	0.3–1.8	0.5–1.3
Position of lower primary pedicels	erect to ascending or spreading	mostly ascending to spreading	mostly ascending to spreading	mostly ascending to spreading	often reflexed
Tepal length (mm)	2.4–3.3	2.8–4.5	2.6–3.8	2.6–4.2	2.8–4.1
Anther length (mm)	0.4–0.7	0.6–1.2 (–1.4)	0.6–1.2	0.8–1.5	(0.7–) 0.9–1.2
Anther/filament ratio	0.3–0.7	0.6–1.2	0.6–1.2	mostly 1.0–2.3	0.6–1.2
Capsule/tepal ratio	1.1–1.9	0.8–1.1	0.9–1.3	0.9–1.3	0.9–1.3
Length of seed appendage (mm)	0.6–1.6	0.6–1.7	0.3–1.6	0.2–1.3	0.3–1.1
Seed/appendage ratio	0.8–1.5	0.9–2.2	usually 1.0–2.2	1.4–3.0 (–6.0)	1.0–4.3

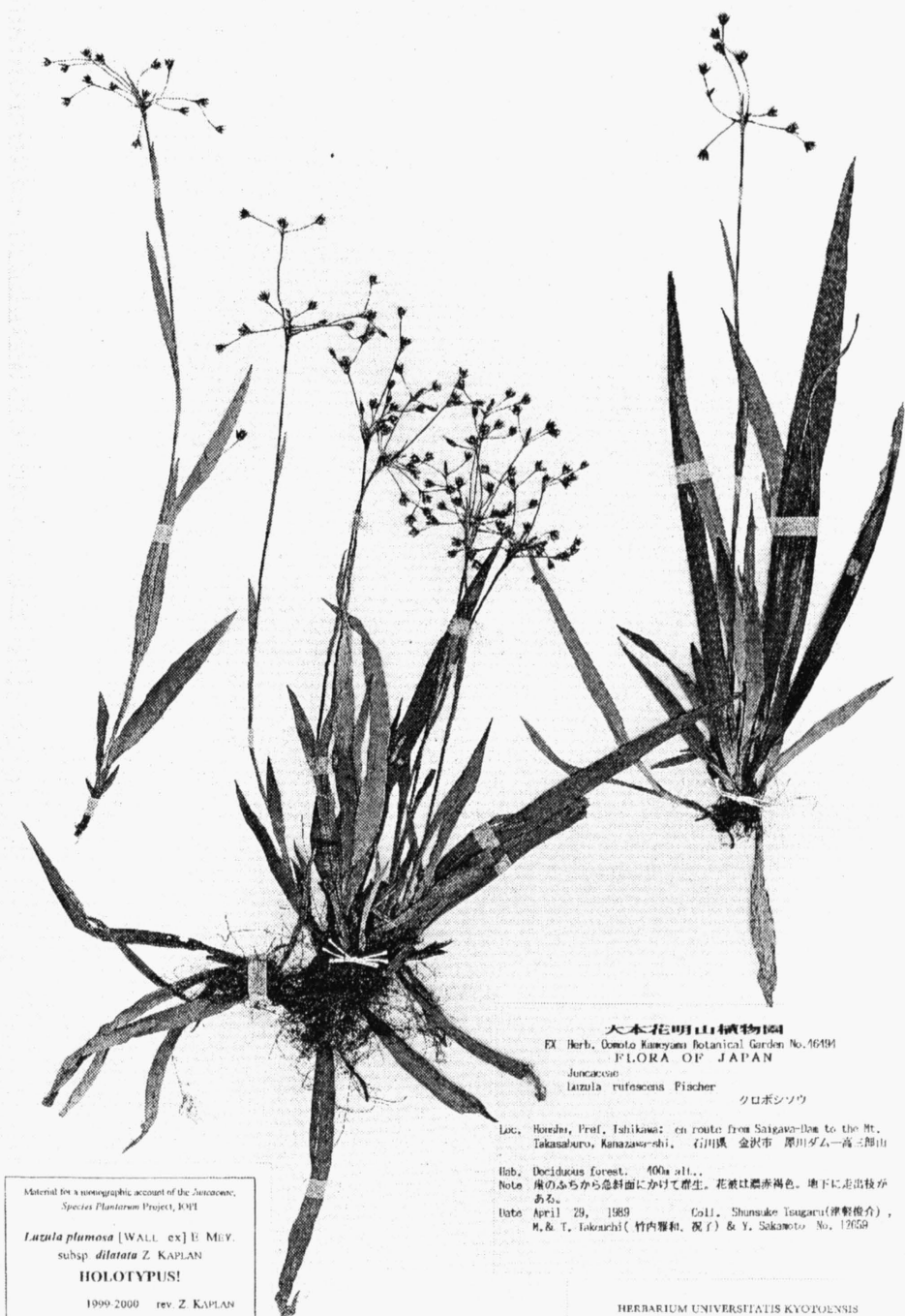


Fig. 3. — *Luzula plumosa* subsp. *dilatata* Z. Kaplan: overall appearance (S. Tsugaru et al. 12659, KYO, holotype).

Material for a monographic account of the *Luzula*
Species Plantarum Project, IOPI

Luzula plumosa [WALL. ex] E. MEY
subsp. *dilatata* Z. KAPLAN

1999/2000 rev./det. Z. KAPLAN



Fig. 4. – *Luzula plumosa* subsp. *dilatata* Z. Kaplan: other plants with broad leaves and extremely long stolons (15 VII 1922, G. Koidzumi s. n., KYO, paratype).

***Luzula plumosa* E. Mey. subsp. *dilatata* Z. Kaplan, subsp. nova**

Descriptio: A subspecie typica differt foliis basalibus latioribus, ad 13 mm latis, seminibus longioribus rationes longitudinis caruncularum; subspeciei sinensi montanae *reflexae* (Ebinger) Z. Kaplan similis, sed inflorescentiis compositis, tantum raro vix decompositis; a subspeciebus ambobus pedicelli infernis ascendentibus vel effusis et antheris longioribus quoad rationes longitudinis filamentorum.

Type: Japan, Honshu, Pref. Ishikawa, Kanazawa-shi, en route from Saigawa-Dam to the Mt Takasaburo, 400 m, 29 IV 1989, S. Tsugaru, M. Takeuchi, T. Takeuchi & Y. Sakamoto 12659; holotype: KYO. (Fig. 3)

Perennial, 15–38 cm, glabrous, sometimes caespitose or mostly stoloniferous, with stolons to 11 cm long. Stem with numerous basal and 2–3 cauline flat leaves; basal leaves 4.5–26.0 cm × 3.0–13.0 mm, cauline leaves 4.5–9.0 cm × 2.0–6.0 mm, sparsely pubescent to subglabrous at margins, without a mucronate projection on callose tip. Inflorescence terminal, compound, occasionally slightly decompound with a few tertiary pedicels, secondary/primary pedicel ratio 0.3–1.8; primary pedicels 5–12, mostly ascending to spreading; flowers borne singly on primary or secondary pedicels. Basal bract to 4 cm long, shorter than inflorescence; bracteoles 1.5–2.3 mm long. Tepals equal to subequal, 2.6–4.2 mm, lanceolate, acuminate to mucronate, entire, pale brown to dark brown or purple with hyaline margins. Stamens 6; anthers 0.8–1.5 mm, shorter or equalling to longer than filaments, anther/filament ratio (0.6–) 1.0–2.3; style 0.4–1.4 mm; stigmas 0.9–3.8 mm, ± persistent. Capsule ovoid, subtruncate to acute, shorter or equalling to exceeding tepals, capsule/tepals ratio 0.9–1.3, light brown to stramineous. Seeds ellipsoid or rarely subglobose, 1.1–1.5 × 0.9–1.1 mm, with apical appendages 0.2–1.3 mm, seed/appendage ratio 1.4–3.0 (–6.0). (Fig. 3 and 4)

Additional specimens seen (paratypes): Japan: Honshu, Pref. Gifu, Yoshiki-gun, Kamitakara-mura, Okuhodaka-onsen, 1300 m, 2 VI 1977, G. Murata, H. Koyama & H. Nishimura 32635 (KYO); Honshu, Pref. Gifu, Ibi-gun, Kasuga-mura, Mitsuka, along the ravine of Osai-dani W of Osai, c. 600–900 m, 6 VI 1984, H. Takahashi & H. Takano 229 (KYO); Honshu, Pref. Hyogo, Mikata-gun, Mikata-cho, en route from Kajiya to Yoshitaki, 550–660 m, 22 IV 1978, N. Fukuoka 9589 (KYO); Honshu, Pref. Yamato, Mt Misen to Shinohara, 15 VII 1922, G. Koidzumi s. n. (KYO); Honshu, Pref. Shimane, Iiishi-gun, Tonbara-cho, Mt Ooyorogi, 600–1200 m, 21 V 1983, K. Deguchi & S. Tsugaru 4281 (KYO); [Honshu] Pref. Nagano, Kitaazumi-gun, Otari-mura, Otari-onsen – Yutoge, Mt Amakazari, 1000–1300 m, 31 V 1977, S. Tsugaru 3407 (KYO); Shikoku, Prov. Iyo, between Mt Tsutsujosan and Mt Ischizuchiyama, 1700 m, 28 V 1956, G. Murata & T. Shimizu 1031 (KYO); Shikoku, Iyo [Ehime Pref.], 29 V 1932, Mitsui 19 (KYO).

Ebinger (1964) also treated Japanese populations as a separate var. *brevipes* (Franch. et Sav.) Ebinger. However, the differences are indistinct and given features overlap significantly (Table 2). Correct assignment to one of his varieties is mostly impossible without knowledge of the plant origin. For these reasons, no separate status is accorded to Japanese populations here.

Typifications

For several names no holotype was indicated by their author, or more specimens were simultaneously designated as types in their protologues, or the holotype has been lost or destroyed. To provide a basis for the application and interpretation of these names, lectotypes are selected and designated here among authentic syntypes.

Juncus flavescens Host, Icon. Descr. Gram. Austriac. 3: 62. 1805.

- ≡ *Luzula hostii* Desv., J. Bot. (Desvaux) 1: 140. 1808, nom. illeg.
- ≡ *Luzula flavescens* (Host) Gaudin, Agrost. Helv. 2: 239. 1811.
- ≡ *Pterodes flavescens* (Host) Börner, Fl. Deutsche Volk 722. 1912.
- ≡ *Nemorinia flavescens* (Host) Fourr., Ann. Soc. Linn. Lyon, nov. sér., 17: 172. 1869.

Type: 'in alpinis tyrolensibus, carinthiacis', *Andreas Ortner*; holotype: W, destroyed; lectotype: [icon in] Host, Icon. Descr. Gram. Austriac. 3: tab. 94 (1805), lectotype designated here.
[= *Luzula luzulina* (Vill.) Racib.]

Luzula saltuensis Fern., Rhodora 5 (56): 195. 1903.

- ≡ *Juncoides saltuensis* (Fern.) F. Heller, Muhlenbergia 6: 12. 1910.
- ≡ *Luzula carolinae* S. Watson var. *saltuensis* (Fern.) Fern., Rhodora 40 (478): 404. 1938.
- ≡ *Juncoides pilosa* (L.) O. Kuntze var. *saltuensis* (Fern.) Farw., Rep. Michigan Acad. Sci. 20: 170. 1918.
- ≡ *Luzula pilosa* (L.) Willd. var. *saltuensis* (Fern.) Boivin, Naturaliste Canad. 94: 526. 1967.

Type: Open woods and thickets, Orono, Maine, May 14, 1902, M. L. Fernald [Pl. Exs. Gray.] 85; lectotype: GH, lectotype designated here; isolectotypes: GH, K, PH, PRC, US, W etc.
[= *Luzula acuminata* Raf. subsp. *acuminata*]

Note: Lectotype of *L. saltuensis* is the same specimen as neotype of *L. acuminata* Raf. (see Kirschner & Kaplan 2001b).

Luzula formosana Ohwi, Acta Phytotax. Geobot. 1: 79. 1932.

Type: Formosa [=Taiwan], Mt Arisan, 2500 m, VI 1914, U. Faurie 154; lectotype: KYO, lectotype designated here; isolectotype: KYO.

Luzula rufescens var. *brevipes* Franch. et Savatier, Enum. Pl. Jap.: 96. 1879.

- ≡ *Luzula plumosa* var. *brevipes* (Franch. et Sav.) Ebinger, Mem. New York Bot. Gard. 10 (5): 298. 1964.

Type: Japan, Honshu, Prov. Senano [=Nagano], Saba, Savatier 3368; lectotype: P, lectotype designated here.
[= *Luzula plumosa* E. Mey. subsp. *plumosa*]

Luzula japonica Buchenau, Bot. Jahrb. Syst. 12: 82. 1890.

- ≡ *Juncoides japonicum* (Buchenau) O. Kuntze, Revis. Gen. Pl. 2: 724. 1891.

Type: Japan, Hokkaido, Hakodate, Mai 1861, Maximowicz; lectotype: LE, lectotype designated here; isolectotype: BM, K, LE, P.
[= *Luzula plumosa* E. Mey. subsp. *plumosa*]

Luzula rufescens Fisch. ex E. Mey., Linnaea 22: 385. 1849.

- ≡ *Juncoides rufescens* (Fisch. ex E. Mey.) O. Kuntze, Revis. Gen. Pl. 2: 725. 1891.
- ≡ *Luzula pilosa* var. *rufescens* (Fisch. ex E. Mey.) Boivin, Naturaliste Canad. 94: 526. 1967.

Type: [Russia, Siberia] In herbosis prope Irkutiam, 1830, Turczaninow; lectotype: LE, lectotype designated here; photo: PRA, S; isolectotype: LE.

Luzula rufescens var. *macrocarpa* Buchenau in A. Engler, Pflanzenreich 25 (4): 47. 1906.

- ≡ *Luzula macrocarpa* (Buchenau) Nakai, Rep. Veg. Quelpaert: 30. 1914.
- ≡ *Luzula plumosa* var. *macrocarpa* (Buchenau) Ohwi, Fl. Japan: 271. 1953.
- ≡ *Luzula pilosa* var. *macrocarpa* (Buchenau) Boivin, Phytologia 42 (5): 411. 1979.

T y p e : [Russia, Russian far East:] Amur, Maximowicz; lectotype: LE, lectotype designated here; isolectotype: K, LE, S, UPS.

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Souhrn

Článek přináší některé výsledky taxonomické revize skupiny *Luzula* subg. *Pterodes* (Griseb.) Buchenau zpracovávané v rámci projektu Světové flóry (Species plantarum: Flora of the world). Dva taxony jsou popsány jako nové: *Luzula jimboi* Miyabe et Kudo subsp. *atrotepala* Z. Kaplan a *L. plumosa* E. Mey. subsp. *dilatata* Z. Kaplan. Dále jsou vytvořeny tři nomenklatorické kombinace na poddruhové úrovni pro taxony se zřetelnou geografickou vazbou: *L. forsteri* (Sm.) DC. subsp. *rhizomata* (Ebinger) Z. Kaplan, *L. acuminata* Raf. subsp. *carolinae* (S. Watson) Z. Kaplan a *L. plumosa* E. Mey. subsp. *reflexa* (Ebinger) Z. Kaplan. Na základě studia typového materiálu byla odhalena skutečná identita jmen *L. cehica* Domin (jméno navržené pro předpokládaného hybridu *L. luzuloides* × *L. pilosa*) a *L. rostrata* Buchenau (jméno chybně používané pro druh vyskytující se v Japonsku, na Sachalinu, Kurilských ostrovech a Kamčatce). Uvedeny jsou znaky odlišující taxony v rámci taxonomicky obtížných skupin. Lektotypifikace byla provedena u osmi jmen.

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