

NEW NOMENCLATURAL COMBINATIONS IN *BLITUM*, *OXYBASIS*, *CHENOPODIASTRUM*, AND *LIPANDRA* (CHENOPODIACEAE)

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ABSTRACT

Following the recent recognition of several genera segregated from *Chenopodium* sensu lato (Chenopodiaceae), new nomenclatural combinations are proposed in the genera *Blitum* L. (sect. **Atriplicina** (Aellen) Mosyakin, comb. nov.; **Blitum capitatum** L. subsp. **hastatum** (Rydb.) Mosyakin, comb. nov.; **Blitum** × **tkalsicsii** (H. Melzer) Mosyakin, comb. nov. = *B. bonus-henricus* × *B. virgatum*), *Oxybasis* Kar. & Kir. (sect. **Pseudoblitum** (Hook. f.) Mosyakin, comb. nov.; sect. **Glauca** (Standl.) Mosyakin, comb. nov.; sect. **Urbica** (Standl.) Mosyakin, comb. nov.; sect. **Thellungia** (Aellen) Mosyakin, comb. nov.; **Oxybasis antarctica** (Hook. f.) Mosyakin, comb. nov.; **Oxybasis erosa** (R. Br.) Mosyakin, comb. nov.; **Oxybasis glauca** (L.) S. Fuentes, Uotila, & Borsch subsp. **ambigua** (R. Br.) Mosyakin, comb. nov.; **Oxybasis glauca** subsp. **amurensis** (Ignatov) Mosyakin, comb. nov.; **Oxybasis glauca** subsp. **salina** (Standl.) Mosyakin, comb. nov.; **Oxybasis rubra** (L.) S. Fuentes, Uotila, & Borsch var. **humilis** (Hook.) Mosyakin, comb. nov.; **Oxybasis** × **schulzeana** (Murr) Mosyakin, comb. nov. = *O. glauca* × *O. rubra*), *Chenopodiastrum* S. Fuentes, Uotila, & Borsch (sect. **Grossefoveata** (Mosyakin) Mosyakin, comb. nov.; **Chenopodiastrum fasciculosum** (Aellen) Mosyakin, comb. nov.; **Chenopodiastrum fasciculosum** var. **schimperii** (Asch.) Mosyakin, comb. nov.), and *Lipandra* (**Lipandra polysperma** (L.) S. Fuentes, Uotila, & Borsch var. **acutifolia** (Sm.) Mosyakin, comb. nov.). The name × **Lipastrum** Mosyakin is proposed for intergeneric hybrids *Chenopodiastrum* × *Lipandra*, as well as the new combination × **Lipastrum perhybridum** (Ponert) Mosyakin, comb. nov. (*Chenopodiastrum hybridum* × *Lipandra polysperma*).

KEY WORDS: Chenopodiaceae, *Blitum*, *Chenopodium*, *Chenopodiastrum*, *Lipandra*, *Oxybasis*, taxonomy

Since the publication of treatments of Chenopodiaceae Vent. in the *Flora of North America North of Mexico* (Clemants & Mosyakin 2003) and the *Flora of China* (Zhu et al. 2003), in which species formerly placed in *Chenopodium* s. l. were redistributed between *Chenopodium* L. and *Dysphania* R. Br. (Mosyakin & Clemants 2002, 2008), our understanding of phylogeny and taxonomy of *Chenopodium* and related taxa considerably changed, mainly due to recent molecular phylogenetic studies (Kadereit et al. 2003, 2005, 2010; Fuentes-Bazan et al. 2012a, 2012b). Kadereit et al. (2003) initially identified three phylogenetically distinct clades corresponding to commonly recognized subgenera of *Chenopodium* (subgen. *Chenopodium*, subgen. *Blitum* (L.) I. Hiitonen, and subgen. *Ambrosia* A.J. Scott) or segregate genera (*Chenopodium* s. str., *Blitum* L., and *Dysphania* R. Br. emend. Mosyakin & Clemants, respectively).

In all modern phylogenetic schemes, this new circumscription of *Dysphania* (Mosyakin & Clemants 2002, 2008) was generally confirmed by molecular phylogenetic methods (Kadereit et al. 2003, 2005, 2010; Fuentes-Bazan et al. 2012a, 2012b) and recognized in recent taxonomic treatments (e.g., Uotila 2013), with the only exception of possible generic recognition of *Teloxys* Moq. s. str. containing *T. aristata* (L.) Moq. (Kadereit et al. 2010; Fuentes-Bazan et al. 2012a, 2012b). However, new and rather unexpected clades were recently identified in the groups attributed to *Chenopodium* s. str. and *Blitum* (Fuentes-Bazan et al. 2012a, 2012b). Consequently, generic status was proposed for several other segregates of *Chenopodium* s. l.

The new taxonomic scheme based on molecular phylogenetic findings was summarized by S. Fuentes-Bazan et al. (2012b), who recognized segregate genera *Teloxys*, *Dysphania*, *Blitum*, and *Chenopodium* s. str. (including *Einadia* Raf. and *Rhagodia* R. Br.), resurrected the long-forgotten generic names *Lipandra* Moq. and *Oxybasis* Kar. & Kir., and described the new genus *Chenopodiastrum* S. Fuentes, Uotila, & Borsch. Necessary new combinations were provided, but mainly at the species rank, while no infrageneric taxa were proposed. However, several taxa (mostly infrageneric and infraspecific ones, but also some species), earlier validated, discussed, or mentioned in treatments by Standley (1916), Aellen (Aellen 1960–1961, Aellen and Iljin 1936; Aellen and Just 1943, etc.), Scott (1978), and in our treatments for the *Flora of North America North of Mexico* (Clemants & Mosyakin 2003), *Flora of China* (Zhu et al. 2003), *Flora Europae Orientalis* (Mosyakin 1996, 2012b), and several articles (Mosyakin & Clemants 1996; Mosyakin 1996, 2002, 2003, etc.), still have no names available in the newly recognized genera. The new combinations for these taxa are validated below.

BLITUM L.

Blitum L. sect. **Blitum**

Blitum capitatum L. aggregate

Mountain races (species and subspecies) of the Eurasian *Blitum virgatum* L. aggregate tend to have the perianth non-succulent and/or more or less hardened in fruit (see Uotila 1979, 1993, 1997, 2001; Fuentes-Bazan et al. 2012b). These mountain plants are currently recognized as a subspecies, *B. virgatum* subsp. *montanum* (Uotila) S. Fuentes, Uotila, & Borsch (*Chenopodium foliosum* Asch. subsp. *montanum* Uotila), and three species: *B. litwinowii* (Paulsen) S. Fuentes, Uotila, & Borsch (*C. litwinowii* (Paulsen) Uotila), *B. korshinskyi* Litv. (*C. korshinskyi* (Litv.) Minkw.), and *B. petiolare* Link (*C. exsuccum* (C. Loscos) Uotila).

A similar situation is observed in the *Blitum capitatum* aggregate in North America. In our opinion (Clemants & Mosyakin 2003), *B. capitatum* is native to North America and its occurrence in Europe and elsewhere is due to its introduction and/or former cultivation. North American mountain races of *B. capitatum* often differ from typical plants in having smaller non-fleshy fruiting glomerules and leaf blades cuneate to truncate at base, with margins almost entire or at least less strongly toothed than those in *B. capitatum* s. str. Specimens morphologically intermediate between the two native North American races are documented in North American herbarium material. Because of that, in our *Flora of North America* treatment (Clemants & Mosyakin 2003) we recognized the plants with non-fleshy perianth as a variety (following Welsh 1984); however, the second coauthor preferred subspecies rank but did not insist on formalizing his opinion at that time. The new combination for the subspecies is validated below. If this taxon is recognized as a separate species (Fuentes-Bazan et al. 2012b), its correct name would be *B. hastatum* Rydb.

Blitum capitatum L. subsp. **hastatum** (Rydb.) Mosyakin, **comb. nov.** *Blitum hastatum* Rydb., Bull. Torrey Bot. Club 28: 273. 1901. *Chenopodium overi* Aellen, Repert. Spec. Nov. Regni Veg. 26: 159. 1929.

Chenopodium capitatum (L.) Ambrosi var. *parvicapitatum* S.L. Welsh, Great Basin Naturalist 44: 199. 1984.

Hybrids of *Blitum bonus-henricus* (L.) C. A. Mey. and *B. virgatum* L. have been described from Europe as *Chenopodium* × *tkalcsicsii* H. Melzer (as *Chenopodium bonus-henricus* L. × *C. foliosum* Asch.) (Melzer 1987); now this name has to be formally transferred to *Blitum*.

Blitum × **tkalcsicsii** (H. Melzer) Mosyakin, **comb. nov.** *Chenopodium* × *tkalcsicsii* H. Melzer, Ber. Bayer. Bot. Ges. 58: 75. 1987.

Blitum L. sect. **Atriplicina** (Aellen) Mosyakin, comb. nov. *Chenopodium* L. sect. *Atriplicina* Aellen, Verh. Naturforsch. Ges. Basel 41: 99. 1931.

This section contains only one morphologically distinctive species, *Blitum atriplicinum* F. Muell. (also known as *Chenopodium atriplicinum* (F. Muell.) F. Muell. and *Scleroblitum atriplicinum* (F. Muell.) Ulbr.), which is native to southeastern Australia. The species was erroneously placed by Scott (1978) in *Chenopodium* subgen. *Ambrosia* A.J. Scott (now a separate genus *Dysphania*).

OXYBASIS Kar. & Kir.

This long-forgotten generic name was resurrected by Fuentes-Bazan et al. (2012b) to house species formerly placed in at least four sections of *Chenopodium*. However, no infrageneric taxa and combinations were proposed for taxa transferred to *Oxybasis*. Here I transfer to the newly recognized genus the names of the sections discussed, validated, or mentioned in our earlier publications (Clemants & Mosyakin 2003; Mosyakin 2002, 2012a, 2012b; Mosyakin & Clemants 1996).

Oxybasis Kar. & Kir. sect. **Oxybasis**

Chenopodium L. sect. *Degenia* Aellen, Magyar Bot. Lapok 25: 56. 1927. *Blitum* L. sect. *Degenia* (Aellen) Mosyakin, Ukrayins'k. Bot. Zhurn. 69(3): 395. 2012.

This section contains *Oxybasis chenopodioides* (L.) S. Fuentes, Uotila, & Borsch (incl. *Oxybasis minutiflora* Kar. & Kir., the type of the genus) and *O. macrosperma* (Hook. f.) S. Fuentes, Uotila, & Borsch (*Chenopodium macrospermum* Hook. f., the lectotype of *Chenopodium* sect. *Degenia*, see Wilson 1983; Fuentes et al., 2012b).

Oxybasis Kar. & Kir. sect. **Pseudoblitum** (Hook. f.) Mosyakin, **comb. nov.** *Chenopodium* L. sect. *Pseudoblitum* Hook. f., in Benth. et Hook. f., Gen. Pl. 3: 52. 1880. *Blitum* L. sect. *Pseudoblitum* (Hook. f.) Mosyakin, Ukrayins'k. Bot. Zhurn. 69(3): 394. 2012.

Chenopodium L. subgen. *Pseudoblitum* Gren. & Godr., Fl. France 3: 22. 1855, as "*Pseudo-Blitum*", nom. illeg. *Blitum* L. subgen. *Pseudoblitum* Schur, Enum. Pl. Transsilv.: 571. 1866, nom. illeg. *Chenopodium* L. sect. *Pseudoblitum* Syme, in Sowerby, Engl. Bot., ed. 3, 8: 20. 1868, nom. illeg.

Chenopodium L. [unranked] *Rubra* Standl., North Amer. Fl. 21: 29. 1916.

This section houses its type, *Oxybasis rubra* (L.) S. Fuentes, Uotila, & Borsch (*Chenopodium rubrum* L.), and some closely related taxa. For example, S. Fuentes-Bazan et al. (2012b) mentioned a recently described species, *Chenopodium gubanovii* Sukhor., but refrained from any nomenclatural actions, indicating that "...molecular analysis is needed to confirm its placement in *Oxybasis*: glabrous plants, sparingly branched stem, 2–4 almost free perianth segments somewhat enlarging in fruit and vertical seeds might refer also to *Blitum*." Sukhorukov, the author of *C. gubanovii*, expressed the opinion that it is closely related to other *Oxybasis* species but not to *Blitum* (Sukhorukov & Zhang 2013).

Fuentes-Bazan et al. (2012b) attributed the name *Chenopodium* subgen. *Pseudoblitum* to Grenier and Godron. However, when describing their subgenus (as *Pseudo-Blitum*), Grenier and Godron (l. c.) included in it two species, *Chenopodium rubrum* and *C. bonus-henricus* L. The last one is the type of *Orthosporum* C.A. Mey. subgen. *Agathophytum* T. Nees (Gen. Pl. Fl. Germ., t. 57. 1835.) based on the illegitimate generic name *Agathophytum* Moq. (Ann. Sci. Nat., Bot. sér. 2, 1: 291. 1834), often erroneously cited as "*Agathophyton*", a synonym of *Anserina* Dumort. (Fl. Belg.: 21. 1827), which makes the name proposed by Grenier and Godron illegitimate because of the availability of an earlier subgeneric name. The name *Chenopodium* sect. *Pseudoblitum* proposed by Syme (l.c.) is

explicitly based on the illegitimate subgeneric name of Grenier and Godron, but Syme also included in this section *C. bonus-henricus*, in addition to *C. rubrum* and *C. glaucum* L., despite the available sectional name *Blitum* sect. *Agathophyton* Moq. (in DC., Prodr. 13, 2: 84. 1849.). Schur (l. c.) also listed several species in his *Blitum* subgen. *Pseudoblitum*, including *Blitum bonus-henricus* (L.) C.A. Mey. It seems that Hooker (l. c.) was the first author who validly described the sectional name, without any reference to Grenier and Godron or other authors, and explicitly applied it to the group containing *Chenopodium rubrum*, *C. glaucum*, and *C. antarcticum* (Hook. f.) Hook. f. (*Blitum antarcticum* Hook. f.). The two latter species are now placed in their own sections.

Some presumably native North American plants differ from typical *Oxybasis rubra* in having somewhat larger seeds, prostrate or spreading stems, and leaf blade margins entire to shallowly dentate. In the *Flora of North America North of Mexico* (Clemants & Mosyakin 2003) they were recognized as a variety *Chenopodium rubrum* var. *humile* (Hook.) S. Watson and are transferred here to *Oxybasis*.

Oxybasis rubra (L.) S. Fuentes, Uotila & Borsch var. **humilis** (Hook.) Mosyakin, **comb. nov.** *Chenopodium humile* Hook., Fl. Bor.-Amer. 2: 127. 1838. *Chenopodium rubrum* L. var. *humile* (Hook.) S. Watson in W.H. Brewer et al., Bot. California 2: 48. 1880. *Chenopodium rubrum* L. subsp. *humile* (Hook.) Hultén, Kungl. Svenska Vetens.-akad. Handl. 13(1): 304. 1971.

Oxybasis Kar. & Kir. sect. **Glauca** (Standl.) Mosyakin, **comb. nov.** *Chenopodium* L. [unranked] *Glauca* Standl., North Amer. Fl. 21: 29. 1916. *Chenopodium* L. subsect. *Glauca* (Standl.) A.J. Scott, Bot. Jahrb. Syst. 100: 216. 1978. *Chenopodium* L. sect. *Glauca* Ignatov, Sosud. Rast. Sovet. Dal'nego Vostoka (Сосуд. раст. совет. Дальнего Востока) 3: 22. 1988. *Blitum* L. sect. *Glauca* (Standl.) Mosyakin, Ukrayins'k. Bot. Zhurn. 69(3): 395. 2012.

This section contains a very polymorphic and widespread species *Oxybasis glauca* (L.) S. Fuentes, Uotila, & Borsch (*Chenopodium glaucum* L.). In my opinion, this is rather a species aggregate than a species; it is represented on various continents by several geographically and morphologically more or less distinct entities, which may be treated as subspecies or even species. However, the geographical and morphological pattern is blurred by the present-day wide secondary distribution of *O. glauca* due to its human-assisted introduction to all continents except Antarctica. Of these entities, the most distinctive are those described in the past as separate species and occurring as native taxa in North America (*Chenopodium salinum* Standl.) and East Asia (*C. amurense* Ignatov). Presumably native Australian plants of that group, known as *Chenopodium ambiguum* R. Br., *C. glaucum* subsp. *ambiguum* (R. Br.) Thell., or *C. glaucum* var. *ambiguum* (R. Br.) Hook. f., also merit recognition at least as a subspecies (or probably even as a separate species). More research, and especially molecular studies, are needed to clarify the taxonomic structure of the *Oxybasis glauca* aggregate worldwide, with special attention to presumably native non-European taxa.

Here I propose new combinations at subspecies rank to house the native Australian, East Asian, and North American representatives of the *Oxybasis glauca* aggregate.

Oxybasis glauca (L.) S. Fuentes, Uotila, & Borsch subsp. **ambigua** (R. Br.) Mosyakin, **comb. nov.** *Chenopodium ambiguum* R. Br., Prodr. Fl. Nov. Holland.: 407. 1810. *C. glaucum* L. subsp. *ambiguum* (R. Br.) Murr & Thell. ex Thell., Mémoires de la Société Nationale des Sciences Naturelles et Mathématiques de Cherbourg (Fl. Advent. Montpellier) 38: 196. 1912. *C. glaucum* L. var. *ambiguum* (R. Br.) Hook. f., Bot. Antarct. Voy. Part 3 (Fl. Tasmaniae) 1: 313. 1857.

Oxybasis glauca (L.) S. Fuentes, Uotila, & Borsch subsp. **amurense** (Ignatov) Mosyakin, **comb. nov.** *Chenopodium amurense* Ignatov, Byull. Moskovsk. Obshch. Isp. Prir., Otd. Biol. (Бюлл. МОИП, Отд. Биол.) 91(3): 111. 1986.

Oxybasis glauca (L.) S. Fuentes, Uotila, & Borsch subsp. **salina** (Standl.) Mosyakin, **comb. nov.** *Chenopodium salinum* Standl., North Amer. Fl. 21(1): 29. 1916. *Chenopodium glaucum* L. subsp. *salinum* (Standl.) Aellen, Repert. Spec. Nov. Regni Veg. 26: 46. 1929. *Chenopodium glaucum* L. var. *salinum* (Standl.) B. Boivin, Canad. Field-Naturalist 65: 17. 1951. *Oxybasis glauca* (L.) S. Fuentes, Uotila, & Borsch var. *salina* (Standl.) Verloove, New J. Bot. 3: 59. 2013.

Oxybasis glauca may occasionally hybridize with *O. rubra*, forming morphologically intermediate hybrids described as *Chenopodium* × *schulzeanum* Murr; it was recently transferred to *Blitum* (Mosyakin 2012a) but now should be transferred to *Oxybasis*.

Oxybasis × **schulzeana** (Murr) Mosyakin, **comb. nov.** *Chenopodium* × *schulzeanum* Murr, Allg. Bot. Zeitschr. 12: 110. 1906. *Blitum* × *schulzeanum* (Murr) Mosyakin, Ukrayins'k. Bot. Zhurn. 69: 395. 2012.

Oxybasis Kar. & Kir. sect. **Urbica** (Standl.) Mosyakin, **comb. nov.** *Chenopodium* L. [unranked] *Urbica* Standl., North Amer. Fl. 21: 11. 1916. *Chenopodium* L. subsect. *Urbica* (Standl.) Mosyakin & Clemants, Novon 6: 400. 1996. *Chenopodium* L. sect. *Urbica* (Standl.) Mosyakin, Ukrayins'k. Bot. Zhurn. 59: 700. 2002.

In our *Flora of North America* treatment (Clemants & Mosyakin 2003) we noted that, "[J]udging from its leaf morphology and anatomy, inflorescence structure, and floral characteristics, *Chenopodium urbicum* probably should be transferred to subg. *Blitum*, where it would occupy a position transitional toward subg. *Chenopodium*." Initially we treated this group as a subsection within sect. *Chenopodium* (Mosyakin & Clemants 1996), and later I elevated its rank and placed sect. *Urbica* in subgen. *Blitum*, next to sections *Degenia* and *Pseudoblitum* (Mosyakin 2002).

Oxybasis Kar. & Kir. sect. **Thellungia** (Aellen) Mosyakin, **comb. nov.** *Chenopodium* L. sect. *Thellungia* Aellen, Verh. Naturforsch. Ges. Basel 41: 103. 1931.

Earlier I placed this section in *Chenopodium* subgen. *Blitum* (Mosyakin 2002). However, after the "resurrection" of the generic name *Oxybasis*, it should be transferred to that genus. Only one species, *Chenopodium antarcticum* (Hook. f.) Hook. f., was originally included in this section by Aellen (1931). However, I believe that another species, previously known as *Chenopodium erosum* R.Br., should be also placed here. This decision is based on morphology, since neither of these species was included in recent molecular studies. Seed morphology of *C. antarcticum* also indicates its affinity to the *Oxybasis* clade (Sukhorukov & Zhang 2013). The proper sectional (and even generic) placement of the taxon known as *Chenopodium mexicanum* Moq. remains more problematic, and because of that I refrain from transferring it to another genus.

Oxybasis antarctica (Hook. f.) Mosyakin, **comb. nov.** *Blitum antarcticum* Hook. f., Bot. Antarct. Voy. Part 1 (Fl. Antarct.) 1: 549. 1847. *Chenopodium antarcticum* (Hook. f.) Hook. f., in Benth. & Hook. f., Gen. Pl. 3(1): 52. 1880.

Oxybasis erosa (R. Br.) Mosyakin, **comb. nov.** *Chenopodium erosum* R. Br., Prodr. Fl. Nov. Holland. 407. 1810.

Chenopodium erosum occurring in New Zealand (from where it has been described and where it is possibly extinct now) and Australia was considered by Wilson (1984) as "one of two [species] of the sect. *Leprophyllum* apparently native to Australia." He also noted that this plant "has the aspect of an introduced Eurasian species, however, I was unable to match it with any extra-Australian plant." Based on morphological characters of specimens seen in various herbaria, I earlier placed this species in *Chenopodium* subgen. *Blitum* sect. *Thellungia*, together with *C. antarcticum* (Mosyakin 2002) and definitely not in *Chenopodium* sect. *Chenopodium* (= sect. *Leprophyllum* Dumort.). Thus the section *Thellungia* most probably has a disjunct range, with one fragment in southernmost South America

(*O. antarctica*) and another in Australia and New Zealand (*O. erosum*). Such a biogeographical vicariance pattern was probably formed due to an ancient long-distance dispersal event; similar trans-Pacific distribution patterns are known for many other vascular plant taxa belonging to various families (see overview by Winkworth et al. 2002).

CHENOPODIASTRUM S. Fuentes, Uotila, & Borsch

This genus contains two rather distinct groups, one including *Chenopodiastrum murale* (L.) S. Fuentes, Uotila, & Borsch (*Chenopodium murale* L.) and related taxa, and another housing three or four closely related species or subspecies forming the aggregate of *Chenopodiastrum hybridum* (L.) S. Fuentes, Uotila, & Borsch (*Chenopodium hybridum* L.). Both groups were previously recognized as sections or subsections in *Chenopodium* (Aellen 1960–1961; Aellen & Iljin 1936; Aellen & Just 1943; Scott 1978; Clemants & Mosyakin 2003; Mosyakin 1993, 2003; Mosyakin & Clemants 1996 etc.).

Chenopodiastrum sect. **Chenopodiastrum**

This section contains the type of the genus, *Chenopodiastrum murale*. Fuentes-Bazan et al. (2012b) also recognized *Chenopodiastrum coronopus* (Moq.) S. Fuentes, Uotila, & Borsch (*Chenopodium coronopus* Moq.) but did not mention *Chenopodium fasciculosum* Aellen, the East African and Arabian relative of *C. murale*, which seems to be morphologically transitional toward the *C. hybridum* group. The new combinations for that rather distinctive species and its variety are provided below.

Chenopodiastrum fasciculosum (Aellen) Mosyakin, **comb. nov.** *Chenopodium fasciculosum* Aellen, Repert. Spec. Nov. Regni Veg. 24: 344. 1928.

Chenopodiastrum fasciculosum (Aellen) Mosyakin var. **schimperi** (Asch.) Mosyakin, **comb. nov.** *Chenopodium murale* L. var. *schimperi* Asch., in Schweinf., Beitr. Fl. Aethiop.: 184. 1867. *Chenopodium fasciculosum* Aellen var. *schimperi* (Asch.) M.G. Gilbert, Nordic J. Bot. 19: 411. 1999.

Chenopodium fasciculosum Aellen var. *muraliforme* Aellen, Repert. Spec. Nov. Regni Veg. 24: 344. 1928.

Chenopodiastrum S. Fuentes, Uotila, & Borsch sect. **Grossefoveata** (Mosyakin) Mosyakin, **comb. nov.** *Chenopodium* L. sect. *Grossefoveata* Mosyakin, Ukrayins'k. Bot. Zhurn. 50: 75. 1993 (cum auct. "Aellen & Iljin ex Mosyakin").

Chenopodium [unranked] *Hybrida* Standl., North Amer. Fl. 21: 13. 1916.

Chenopodium L. sect. *Chenopodia* C.A. Mey. ser. *Grossefoveata* Aellen & Iljin, Fl. URSS, 6: 55. 1936, nom. inval. (descr. ross.). *Chenopodium* L. sect. *Chenopodium* subsect. *Grossefoveata* Aellen in Aellen & Just, Amer. Midl. Nat. 30: 75. 1943, nom. inval. (descr. angl.); Aellen in Hegi, Illustr. Fl. Mitteleur. ed. 2, 3(2): 577. 1961, nom. inval. (descr. germ.).

This section includes three currently recognized species, *Chenopodiastrum hybridum*, *C. badachschanicum* (Tzvelev) S. Fuentes, Uotila, & Borsch (*Chenopodium badachschanicum* Tzvelev), *C. simplex* (Torr.) S. Fuentes, Uotila, & Borsch (*Chenopodium simplex* (Torr.) Raf.; *C. gigantospermum* Aellen), and probably one yet undescribed East Asian entity (species or subspecies) discussed by Baranov (1964) and mentioned by Zhu et al. (2003).

LIPANDRA Moq.

The sole member of this genus, *Lipandra polysperma* (L.) S. Fuentes, Uotila, & Borsch (*Chenopodium polysperum* L.), has two rather well outlined varieties, one of which (not containing the type of the species) has to be transferred to *Lipandra*.

Lipandra polysperma (L.) S. Fuentes, Uotila, & Borsch var. **acutifolia** (Sm.) Mosyakin, comb. nov.
Chenopodium acutifolium Sm., Comp. Fl. Brit.: 42. 1800. *Chenopodium polyspermum* L. var.
acutifolium (Sm.) Gaudin, Fl. Helv. 2: 259. 1828.

The hybrid between *Chenopodium hybridum* and *C. polyspermum* has been described as *Chenopodium* × *perhybridum* Ponert (1966) from the territory of the Czech Republic; it seems to occur very rarely but was occasionally reported from several European countries. If *Chenopodiastrium* and *Lipandra* are accepted as genera, the nothogeneric name (hybrid formula) has to be coined, and this hybrid is in need of a new combination.

× **LIPASTRUM** Mosyakin (= *Chenopodiastrium* S.Fuentes, Uotila, & Borsch × *Lipandra* Moq.)

× **Lipastrum perhybridum** (Ponert) Mosyakin, comb. nov. (*Chenopodiastrium hybridum* × *Lipandra polysperma*). *Chenopodium* × *perhybridum* Ponert, Feddes Repert. 73: 102. 1966.

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