

Taxonomic and nomenclatural notes on *Chenopodium* (Chenopodiaceae) for *Flora Nordica*

Pertti Uotila

Botanical Museum, Finnish Museum of Natural History, P.O. Box 7, FIN-00014
University of Helsinki, Finland

Received 23 March 2001, accepted 28 March 2001

Uotila, P. 2001: Taxonomic and nomenclatural notes on *Chenopodium*
(Chenopodiaceae) for *Flora Nordica*. — *Ann. Bot. Fennici* 38: 95–97.

The South African member of the *Chenopodium schraderianum* aggr. is recognized at species level, as *Chenopodium pseudomultiflorum* (Murr) Uotila *stat. & comb. nova*. Specimens in LINN have been rejected as original material for *Blitum chenopodioides* L., and a neotype is chosen for the name, maintaining its usage in the sense proposed by P. Aellen in 1933. *Chenopodium blomianum* Aellen is lectotypified. — *Flora Nordica* Note No. 28.

Key words: Africa, *Chenopodium*, Linnaean name, nomenclature, taxonomy, typification

Chenopodium pseudomultiflorum (Murr) Uotila, *comb. nova*

C. foetidum subsp. *pseudomultiflorum* Murr, Bull. Herb. Boissier Sér. 2. 4: 991. 1904. — *C. foetidum* var. *pseudomultiflorum* (Murr) Graebn., in Aschers. & Graebn., Syn. mitteleur. Fl. 5: 24. 1913. — *C. schraderianum* var. *pseudomultiflorum* (Murr) Aellen, Bull. Soc. Roy. Bot. Belgique 87: 200. 1954.

The species deviates from *Chenopodium schraderianum* Roemer & Schult. in being more branched, in having leaf blades with a greater number of lobes (more than 10 lobes and numerous teeth), in tepals which are keeled but not

crystate and with subsessile glands and longer hairs, and in smaller seeds. *Chenopodium pseudomultiflorum* is distributed in South Africa. As a rare casual, imported with South African sheep wool, it has also been found in several places in Europe, including Sweden, Skåne, Lackalånga, in 1925 (LD).

Chenopodium chenopodioides

Chenopodium chenopodioides (L.) Aellen in Ostenia, Festschr. Osten: 98. 1933. — *Blitum chenopodioides* L., Mant. Pl.: 170. 1771.

Neotype (selected here): [Russia, Republic of Dagestan] In fontis Kislar, [at the beginning of the 1800s], *C. Steven* (H 1037202).

Aellen (1933) interpreted *Blitum chenopodioides* as conspecific with the species that, several years earlier (Aellen 1927), he had discussed under the name *Chenopodium crassifolium* Hornem. However, already in the earlier publication, he refers to the possibility that *Blitum chenopodioides* and *Chenopodium crassifolium* perhaps are conspecific. He made this judgement on the basis of the original description by Linnaeus, which is as follows: “*Planta humilis, pollicaris, Chenopodio simillima. Caulis simplicissimus, indivisus, viridis. Folia sæpius opposita, lanceolata, subdeltoidea, subpetiolata, avenia, integerrima, angulo sæpe obsoleto utrinque. Verticilli duo s. tres, etiam terminales, virides continuo, exsucco. Calyx triphyllus, concavus, connivens, viridis. Styli duo. Semen subrotundum, compressum, fusco-purpurascens*”.

The description matches reasonably well with a small, meagre plant of both the taxon concerned here, and *Chenopodium rubrum* L., though even small plants of the former are often at least weakly branched, and only the lowermost leaves are subopposite (however, less so in *C. rubrum*). The leaf shape, as well as the descriptions of the seed, match both species, but subdeltoid, entire leaves less well with *C. rubrum*. Both taxa have 3 tepals in the lateral flowers, but in *C. rubrum* the tepals are free and well separated to more than halfway from the top, whereas in *C. chenopodioides* they are connate close to the apex. As to this character, the expression “*calyx concavus, connivens*” matches much better with the present species than *C. rubrum*. This is the most important character for recognizing *C. chenopodioides*, even from the other species of the genus.

Aellen (1933) also concluded that the original description was not made on the basis of the two specimens in LINN (14.3, 14.4; both received by Linnaeus from Arduino and labelled as “*tataricum*”), because of the disharmony between the specimens and the description. For instance, the specimens are not so small, they

have many bushy branches, and the leaves are alternate, with fairly long petioles and irregularly toothed/lobed blades. At that time he had seen only a photograph of the sheets and supposed that they could represent either the taxon concerned or a deformed *C. rubrum*. The difference in tepal characters cannot be seen from a “normal” photograph of a sheet. In 1964, Aellen saw the specimens at LINN, and determined them as *C. rubrum*, confirmed also by me in the 1990s.

Aellen’s interpretation of *Chenopodium chenopodioides* has been fairly generally accepted, e.g. by Iljin and Aellen (1936), Greuter *et al.* (1984), Uotila (1990, 1997), and Tutin *et al.* (1993; *Chenopodium* revised by J. R. Akeroyd). However, the name has occasionally been informally rejected (e.g. by Tutin *et al.* (1964; *Chenopodium* written by J. P. M. Brenan), where *C. botryodes* Sm. was adopted as the name of this taxon, *C. chenopodioides* appearing in the index as a questionable synonym). This reflected concerns that the name might be applicable to *C. rubrum* but the typification made here finally clarifies the application of *C. chenopodioides*, and removes any lingering doubts over its application.

As the material in LINN has been shown not to be original material for *Blitum chenopodioides*, and as there are no other original elements in existence, a neotype has been designated here (see above). The neotype specimen represents typical plant of *Chenopodium chenopodioides*; it is in early fruiting stage and the lateral flowers have clearly connate tepals. The plant is green, it has 4 basal, 15–18 cm long, subopposite branches, which have probably been ascending; leaves are alternate (basalmost leaves are missing), with fairly short petiole, the blade is triangular-deltoid, 2.5 cm or less, almost as long as wide, with basal angles and a few low teeth, or entire; bracts are smaller, narrower. Inflorescences are axillary and terminal, glomerules small but numerous. The specimen was collected by C. Steven from Kizlyar, town on the west coast of the Caspian Sea, corresponding well with “*Tataria*” according to the concept of Linnaeus.

Chenopodium ficifolium subsp. *blomianum*

Chenopodium ficifolium Sm. subsp. *blomianum* (Aellen) Aellen in Hegi, Illustr. Fl. Mittel-Eur. Ed. 2, 3(2): 624. 1960. — *Chenopodium blomianum* Aellen, Bot. Notiser 1928: 203. 1928.

Lectotype (selected here): Flora Suecica. Göteborg, bei Dampfmühle "Kvarnen Tre Lejon", 19.VII.1927 Carl Blom (G; sheet no. 10602 of P. Aellen's herbarium).

Aellen (1928) described his *Chenopodium blomianum* on the basis of adventive plants sent to him for determination by a Swedish botanist, Carl Blom. Three Swedish collections are cited in the protologue: Skåne, Kristianstad, 1921 *C. Blom*; Göteborg, Kvarnen Tre Kronor 1927 *C. Blom*; and Göteborg, Kvarnen Tre Lejon 1927 *C. Blom*. The two plants illustrated in Aellen (1928: 204) have been mounted with a third plant and three separate leaves on a sheet labelled "*Chenopodium Blomianum* Aellen, Göteborg, bei Dampfmühle Kvarnen Tre Lejon, 19/7 1927 Carl Blom" (G; sheet no. 10602 of P. Aellen's herbarium). This sheet is chosen here as the lectotype of *C. blomianum*. The plants on it are at flowering stage. Swedish herbaria GB and UPS include specimens collected by C. Blom from the same locality, but on 21 July and 5 September, and so they do not represent real duplicates of the lectotype collection. The collection from 5 September represents fruiting material and was also sent to P. Aellen (G), and later distributed as number 649 of G. Samuelsson (†), *Plantae Suecicae exsiccatae*, ed. E. Hultén.

Chenopodium ficifolium subsp. *blomianum* is a variable taxon distributed in South and South East Asia up to Afghanistan in the west (Uotila 1997).

Acknowledgements

Dr. Charlie Jarvis (London), Prof. Bengt. Jonsell (Stockholm) and Prof. Ilkka Kukkonen (Helsinki) are thanked for valuable discussions and comments on the manuscript.

References

- Aellen, P. 1927: *Chenopodium crassifolium* Hornem., eine verkannte europäische Art. — *Magyar Bot. Lapok* 25: 55–63.
- Aellen, P. 1928: Neue adventive Chenopodien aus Schweden. — *Bot. Notiser* 1928: 203–210.
- Aellen, P. 1933: Nomenklatorische Bemerkungen zu einigen Chenopodien. — *Ostenia, Festschr. Osten*: 98–101. Montevideo.
- Greuter, W., Burdet, H. M. & Long, G. 1984: *Med-Checklist*. 1. — Conservatoire et Jardin botaniques, Ville de Genève & Med-Checklist Trust of OPTIMA, Genève.
- Ilijin, M. M. & Aellen, P. [Ильин, М. М. & Эллен, П.] 1936: *Chenopodium*. — In: Komarov, V. L. [Комаров, В. Л.] (ed.), *Flora USSR* 6: 41–74. [In Russian].
- Tutin, T. G., Burges, N. A., Chater, A. O., Edmondson, J. R., Heywood, V. H., Moore, D. M., Valentine, D. H., Walters, S. M. & Webb, D. A. (eds.) 1993: *Flora Europaea*. Vol. 1. 2nd ed. Cambridge Univ. Press, Cambridge.
- Tutin, T. G., Heywood, V. H., Burges, N. A., Valentine, D. H., Walters, S. M. & Webb, D. A. (eds.) 1964: *Flora Europaea*. Vol. 1. Cambridge Univ. Press, Cambridge.
- Uotila, P. 1990: *Chenopodium* L. — In: Castroviejo, S., Laínz, M., López González, G., Montserrat, P., Muñoz Garmendia, F., Paiva, J. & Villar, L. (eds.), *Flora Iberica, Plantas vasculares de la Península Ibérica e Islas Baleares* 2: 484–500. Real Jardín Botánico, Madrid.
- Uotila, P. 1997: *Chenopodium*. — In: Rechinger, K. H. (ed.), *Flora Iranica* 172: 24–59. Akademische Druck- u. Verlagsanstalt, Graz.