



Lectotypification of the name *Polycnemum majus* (Amaranthaceae s.str.)

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As part of a revision of the genus *Polycnemum* Linnaeus (1753: 35) in Europe we here present a nomenclatural study of the untypified name *Polycnemum majus* A. Braun ex Bogenhard (1841: 151–152). This study is also related to a joint nomenclatural investigation of the Linnaean names of *Camphorosma* Linnaeus (1753: 122), where we detected that most original material of *C. acuta* Linnaeus (1753: 122) agrees with *P. majus*. That matter and a corresponding formal proposal to conserve *P. majus* so as to maintain that name will be published elsewhere.

When comparing specimens of *Polycnemum* collected by himself in the Upper Rhine Valley and by others in different, but not indicated, localities in Germany, Braun detected that some of them differ specifically from *P. arvense* Linnaeus (1753: 35) by “double-sized seeds and bracteoles which are longer than the mature seeds, beside of other not indicated characters” (translated from German). The new species was named *P. majus*. Bogenhard took up Brauns’s species concept and included with it a particularly robust variety described by himself as *P. arvense* var. *maximum* Bogenhard (1840: 166) from Martinstein at the Nahe River Valley in the Bad Kreuznach district of Rhineland-Palatinate. He further mentioned having seen a specimen collected by W.D.J. Koch from near Naumburg in Thuringia. Shortly after Bogenhard’s publication the name *P. majus* appeared as an isonym in Koch (1844: 695), together with a more extensive description but without detailed localities. There the name was ascribed to A. Braun only. It is conceivable that Koch overlooked Bogenhard’s earlier publication but he already had received the basic information about the species from Braun himself. Afterwards, the species was generally accepted (see e.g., Ball 1993, Shultz 2004, Iamónico 2011, Iamónico 2012) though with slightly varying circumscription. Its distribution reaches from central Spain through the northern Mediterranean and central and southeastern Europe eastwards to central Asia. It is widely sympatric with *P. arvense* and in central Europe presently it is decreasing in frequency.

In searching for original material for the name in different herbaria (acronyms are given according to Thiers, 2015) we found three specimens that were collected prior to 1842 at Martinstein and labelled by Bogenhard. Unfortunately, all of them except for one (JE-00021893) lack a collection date. Nevertheless, by other criteria they qualify as original material and therefore fulfil the requirements of Art. 9.3 of the Code (McNeill *et al.* 2012) of having been seen by the author prior to the publication of the protologue.

The three Bogenhard specimens suitable for selection of a lectotype are at (1) NHV: “*Polycnemum majus* Alex. Braun in litt. / Im Sandfeld der Burg Martinstein a. d. Nahe / Caulibus diffusis prostratis, pedalem et ultra longis, bracteis fructu maturo subduplo longioribus”, with three complete plants and several branches in young fruiting condition; (2) JE 000894218: “*Polycnemum majus* A. Braun in litt. / Nahegebiet”, with one complete plant and three branchlets; (3) JE 00021893: “*Polycnemum majus* A. Braun (*P. arvense* β. *maximum* meiner Skizze Flora 1840, Martinstein a. d. Nahe, Sept. 1838”, with one complete plant and six branches. Because of the more complete label that includes the date, we here choose the specimen JE 00021893 as lectotype.

There are some more Bogenhard specimens from the same locality distributed by Reichenbach’s *Flora Germanica Exsiccata* no. 1891 to different herbaria. Here they are not considered because they were named *P. arvense* var. *erectum* Bogenh. Furthermore, they are suspicious of containing heterogeneous material, e.g. the sheet JE 00021892 bears each one individual of *P. majus* and *P. heuffelii* Láng. However, var. *erectum* was never validly published (Art. 36.1d, lacking description or diagnosis) and considered later on by Beck (1909) as identical with the typical *P. majus*, and Reichenbach’s number 1891 was cited in the attachment 1 (“Intelligenzblatt”) to vol. 24 (1841) of the journal *Flora*, indicating that it must have been collected at the latest in 1840.

We also found three interesting specimens collected by Braun, to whom Bogenhard ascribed his *P. majus*. They are preserved at (1) M: “*Polycnemum majus* mihi / Karlsruhe [Karlsruhe, Upper Rhine Vall., Baden-Württemberg],

auf Kalk- und Lößboden [on calcareous and loessic soils]”, the sheet contains five complete and well developed individuals in young fruiting stage; (2) REG: “*Polycnemum majus* AlBr. / Durlach [close to Karlsruhe] 7⁶ .. [probably date: 6 July, year unreadable]”, with three branches in flowering stage; (3) KR: “*Polycnemum majus* ABr / Durlach”, with 6 complete small plants in early flowering stage. However, according to Art. 9.5 and 9.12 of the Code these items can not be considered as syntypes because of not being cited in the protologue.

Simultaneously, we also lectotypify Bogenhard’s *P. arvense* *β. maximum* that was distinguished as “a very peculiar form! more than 3 feet in height” (translation from German) with the same specimen JE 00021893 and consider *P. majus* as a replacement name for *P. arvense* var. *maximum*.

Polycnemum arvense L. var. *maximum* Bogenhard (1840: 164)
≡ *Polycnemum majus* A.Braun ex Bogenhard (1841: 151)

Type (lectotype designated here):—GERMANY, Rhineland-Palatinate, Martinstein a. d. Nahe, September 1838, *Bogenhardt s.n.* (JE-00021893!). Image of the lectotype available at <http://131.130.131.9/database/img/imgBrowser.php?name=477640>

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References

- Ball, P.W. (1993) *Polycnemum* L. In: 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.) *Flora Europaea* (second edition) 1. Cambridge, Cambridge University Press, pp. 115–117.
- Beck, G. (1909) Polygonaceae, Chenopodiaceae (incl. Amarantaceis), Loranthaceae etc. In: Reichenbach, L. & Reichenbach, R.G.H. (Eds.) *Icones Florae Germanicae et Helveticae* 24. Lipsiae & Gerae, F. Zezschwitz, pp. 1–216 + 163 plates.
- Bogenhard, C. (1840) Botanische Skizze zur Charakteristik des Nahethales von Oberstein bis Bingen (last part). *Flora* 23: 161–170.
- Bogenhard, C. (1841) Beiträge zur Charakteristik der Flora des Nahethales. *Flora* 24: 145–152.
- Iamónico, D. (2011) *Polycnemum heuffelii* Láng. In: Greuter, W. & Raus, T. (Eds.) *Med-Cheklisť notulae* 30. *Willdenowia* 41: 314.
- Iamónico, D. (2012) Note sul genere *Polycnemum* (Amaranthaceae) in Italia. In: Peccenini, S., Domina, G. & Salmeri, C. (Eds.) *Flora vascolare d’Italia: studi biosistematici, taxa endemici e loci classici*. Università di Roma Sapienza, Roma, pp. 31–32.
- Koch, W.D.J. (1844) *Synopsis Florae Germanicae et Helveticae* (second edition) 2. Francofurti / Lipsiae, Wilmans / Gebhardt & Reiland, 513 pp.
- Linnaeus, C. (1753) *Species Plantarum* 1. Salvius, Stockholm, 560 pp.
- McNeill, J., Barrie, F.R., Buck, W.R., Demoulin, V., Greuter, D.L., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Marhold, K., Prado, J., Proudhomme van Reine, W.F., Smith, J.F. & Wiersema, J.H. (Eds.) (2012) International Code of Nomenclature for algae, fungi and plants (Melbourne Code): Adopted by the Eighteenth International Botanical Congress, Melbourne, Australia, July 2011. *Regnum Vegetabile* 154: 1–274.
- Moquin-Tandon, C.H.B.A. (1849) Amaranthaceae Juss. In: Candolle, A.P. de (Ed.) *Prodromus Systematis Regni Vegetabilis* 13(2). Treuttel et Wurtz, Paris, pp. 231–424.
- Shultz, L.M. (2004) *Polycnemum* L. In: Flora of North America Editorial Committee (Eds.) *Flora of North America North of Mexico* 4. New York & Oxford, Oxford University Press, pp. 261–262.
- Thiers, B. (2015) *Index herbariorum: A global directory of public herbaria and associated staff*. New York Botanical Garden’s Virtual Herbarium. Available from: <http://sweetgum.nybg.org/ih/> (accessed 2 February 2015).