



Nomenclatural survey of the genus *Amaranthus* (Amaranthaceae). 4. Detailed questions arising around the name *Amaranthus gracilis*

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ABSTRACT: The present article represents the fourth contribution of a series whose final aim is to gain an understanding of the complicated nomenclature of the genus *Amaranthus*. The investigation deals with the need to establish the identity of *Amaranthus gracilis* and related names. On the basis of extensive analysis of the literature, examination of herbarium specimens and field surveys, light has been thrown on a number of complex nomenclatural questions. *Amaranthus gracilis* is published as a *nomen novum* for *Chenopodium caudatum*. According to a recent paper *C. caudatum* cannot be considered either a member of Chenopodiaceae or an *Amaranthus* species and is proposed as a *nomen rejectendum*. Desfontaines' misinterpretation has never been discussed in depth, and most authors associated *A. gracilis* with *A. viridis*. Analysis of the literature has revealed several misapplications. The combinations *Euxolus caudatus* and *Albersia caudata* are *pro parte* synonyms of *A. viridis*, as are Moquin's new *Euxolus caudatus* var. *gracilis* (lectotype here designated, specimen deposited at P) and the combination *Euxolus caudatus* var. *maximus*. The basionym *Amaranthus maximus* (lectotype here designated, specimen at BM) is a heterotypic synonym of *A. caudatus*. On the basis of the results obtained, it can be concluded that *Amaranthus gracilis* has the same type as *Ch. caudatum* and, if the proposed rejection of this latter name is accepted, then Desfontaines' name should be rejected too, according to Art. 56.1 of ICN. The name *A. major* (here lectotypified on a specimen preserved at MPU) is proposed as a heterotypic synonym of *A. viridis*, the latter name having nomenclatural priority.

KEYWORDS: *Amaranthus viridis*, *Chenopodium acuminatum*, *Ch. caudatum*, misapplication of names, N.J. Jacquin, typification

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INTRODUCTION

Amaranthus L. (Amaranthaceae Juss. s.l.) is a critical genus from the taxonomic point of view due to its high phenotypic variability and hybridisation, which have caused nomenclatural disorders and misapplication of names (MOSYAKIN & ROBERTSON 1996; COSTEA *et al.* 2001a; IAMONICO 2014a, 2015a).

As part of an ongoing study carried out on the taxonomy and nomenclature of the genus *Amaranthus* L. (IAMONICO 2011, 2014, 2015a, 2015b; IAMONICO & CLEMENTI 2016 with the final aim of studying all world

Amaranthus names, the present paper is the fourth nomenclatural contribution, one which deals separately with *Amaranthus gracilis* Desf. and related names, since this interesting and complicated nomenclature has significant taxonomic implications.

MATERIALS AND METHODS

The present work constitutes an extensive study of literature (protologues included), personal field investigations and examination of specimens (web images

and detailed photos/scans sent by the Curators) kept in Herbaria BM, BR, LE, LINN, MPU and P (THIERS 2015). The 'Melbourne Code' (MCNEILL *et al.* 2012) is hereafter referred to as ICN.

RESULTS AND DISCUSSION

Nomenclatural history. The name *Amaranthus gracilis* was published by DESFONTAINES (1804: 43) as a *nomen novum* for *Chenopodium caudatum* JACQUIN (1789a: 12, Tab. 344; 1789b: 325). On the basis of the wide discussion by IAMONICO *et al.* (2015), it can be stated that Jacquin's iconography is the lectotype of the name *Chenopodium caudatum* according to Art. 9.2. However, this name cannot be ascribed to any species included in the family Chenopodiaceae because Jacquin's illustration shows stamens in an alternate position in relation to the perianth segments and this pattern is not found in any Chenopodiaceae species or in the genus *Amaranthus* (the flowers shown in Jacquin's illustration are bisexual, while *Amaranthus* always has unisexual flowers). IAMONICO *et al.* (2015) also proposed rejection of this name to avoid disrupting of the established nomenclature, especially concerning a possible proposal to designate an epitype of *Ch. acuminatum* as interpretative of the Jacquin iconography.

Fifteen years later than JACQUIN (1789a, 1789b), DESFONTAINES (1804: 43) proposed to treat Jacquin's *Chenopodium* under the genus *Amaranthus*, publishing the name *Amaranthus gracilis* as a *nomen novum* for *Chenopodium caudatum* Jacq. DESFONTAINES (1804: 43-44) probably avoided the new combination under *Amaranthus* because he knew *A. caudatus* L. (DESFONTAINES 1804: 44). No extensive description was given, but the name was listed under the "CLASSIS VII. DICOTILEDONES APETALAE. (stamina hypogyna.) Ordo I. AMARANTHI. I. Folia alterna nuda. *Amaranthus*. I. Triandri.". Since DESFONTAINES (l.c.) included his *A. gracilis* in the group "Triandri" (three stamens versus five stamens shown in Jacquin's illustration), it can be supposed that the French author changed the species concept or misinterpreted it.

POIRET (1810: 312) provided a diagnosis and description of *A. gracilis* and stated that "Cette plante offre dans les fleurs tous les caractères des amarantes, & ne pouvoit rester parmi les chenopodium" ("This plant has all the characters of *Amaranthus* in the flowers, and cannot remain in *Chenopodium*"). Although POIRET (l.c.) saw Jacquin's iconography ("*Chenopodium caudatum*)...Jacq. Icon. Rar. 2 tab. 344" was cited in synonymy), the description of the flowers is in contrast with this image: "Ses fleurs sont monoïques, à trois étamines..." (the drawing by Jacquin shows a flower bisexual, and with five stamens). The name by Poiret appears to be published as a new name for *Ch.*

caudatum, since the author after the diagnosis wrote "(N.)", which means "Nobis". Consequently, it is an isonym of Desfontaines' name and has no taxonomic status according to Art. 6.3 Note 2 of ICN.

MOQUIN-TANDON (1849: 274) proposed to transfer *Ch. caudatum* to the genus *Euxolus* Raf., which was established 12 years earlier by RAFINESQUE (1837: 42) to include the *Amaranthus* taxa characterised by flowers with three sepals and indehiscent fruit (the name *Euxolus* is currently considered as a synonym of *Amaranthus*, see MOSYAKIN & ROBERTSON 2003; IAMONICO 2015c). MOQUIN-TANDON (l.c.) provided a detailed description, the provenance (several localities: "Guinea...Sierra-Leone...Senegaliâ...Teneriffâ...Indiâ orientali...Javâ...Chinâ...Australasiâ...ins. Taïti...Brasiliâ meridionali...Montevideo...prope Bahiam...ins. Caribaeis, nempe in Maritima...Guadelupâ et Portorico...Jamaicâ") and the following list of synonyms: "*Chenopodium caudatum* Jacq. ... *Amaranthus oleraceus* Lam. ... *A. gracilis* Desf. ... *A. cararu* hort. Bot. Paris 1835 non Zucc. ... *Albersia gracilis* Webb. et Berth. ... *Amaranthus bahiensis* Schrad. in herb. ... *A. major* Salzm.". The names *A. cararu* and *A. bahiensis* were published (as synonyms) for the first time in Candolle's *Prodromus*, so they are not valid under Art. 36.1c of ICN. *Amaranthus major* was listed with an associated (short) diagnosis ("Caulis tenuis, rigidius-culus, subsimplex"). The name "*A. oleraceus*" cited by LAMARCK (1789: 116) refers to the Linnaean species *A. oleraceus* (LINNAEUS 1763: 1403), which currently is a different taxon [*A. blitum* subsp. *blitum* var. *oleraceus* (L.) Hook. f. (see IAMONICO 2015a)]. The citation "*Amaranthus oleraceus* Lam." by MOQUIN-TANDON (1849) is incorrect. *Albersia gracilis* Webb. & Berth. was published by WEBB & BERTHELOT (1836: 287) without description, so it is a *nomen nudum* and invalid according Art. 38.2 Ex 1 of ICN. MOQUIN-TANDON (1849: 274-275) also listed two varieties: β -*gracilis*, and γ -*maximus*. They can be distinguished on the basis of leaf and inflorescence features (see subsequent paragraph "Typifications and identities").

BOISSIER (1879: 992) proposed the new combination *Albersia caudata* (basionym: *Chenopodium caudatum*), also citing in synonymy *Euxolus caudatus* and *Amaranthus gracilis*. The genus *Albersia* was described by KUNTH (1838: 144) to separate the *Amaranthus* species with three sepals and indehiscent fruit. Thereafter BOISSIER (l.c.) also accepted Jacquin's species with a concept different from the original description (the name *Albersia* is currently accepted as a subgenus of *Amaranthus*, see MOSYAKIN & ROBERTSON 2003; IAMONICO 2015a).

During the 20th and 21st centuries, most citations of *Amaranthus gracilis* were given as a synonym of *A. viridis* (MERRILL 1936; BRENAN 1961; TOWNSEND 1974; PIGNATTI 1982; AKEROYD 1993; MOSYAKIN & ROBERTSON 1996; COSTEA *et al.* 2001b; PALMER 2009;

PINTO & VELÁSQUEZ 2010). A few recent authors listed Jacquin's *Chenopodium caudatum* (TOWNSEND 1974), while several others accepted the name *A. gracilis* as opposed to *A. viridis* (THELLUNG 1919; CAVACO 1954; CACCIATO 1966; ZANGHERI 1976). Some botanists have not cited *A. gracilis* at all (CARRETERO 1990).

TYPIFICATIONS AND IDENTITIES

***Albersia caudata*.** According to the description by BOISSIER (1879: 992), the name *Albersia caudata* refers to annual plants with stem erect; leaves petioled, ovate-rhomboid, obtuse at the apex; synflorescence slender, axillary and terminal (the terminal florescence longer than the lateral ones); bracts triangular, short; tepals membranous, linear-spathulate, acute; and fruit subglobose, two time longer than the perianth, wrinkled. Boissier's concept agrees with those of *Amaranthus viridis* as currently recognised (CARRETERO 1990; AKEROYD 1993; COSTEA *et al.* 2001b). However (see also the subsequent paragraphs), since BOISSIER (l.c.) proposed a new combination of Jacquin's *Chenopodium caudatum* [now to be considered a *nomen ambiguum* and proposed as a *nomen rejectendum* (IAMONICO *et al.* 2015)] and listed in synonymy the names *Euxolus caudatus* (new combination of *Ch. caudatum*) and *Amaranthus gracilis* (now a *nomen ambiguum* – see discussion below), it follows that Boissier's combination can be deemed a *pro parte* synonym of *Amaranthus viridis*.

***Amaranthus gracilis*.** According to the nomenclatural history given above, the name *Amaranthus gracilis* was first validly published by DESFONTAINES (1804: 43) as a replacement name for *Ch. caudatum*, thereby having the same type. It follows from the wide discussion published by IAMONICO *et al.* (2015), that Jacquin's image referring to *Ch. caudatum* in *Collectanea* (JACQUIN 1789b) is the lectotype. However, it cannot be ascribed to any *Chenopodium* or *Amaranthus* species and can be considered a *nomen ambiguum*. In order to avoid disruption of the established nomenclature, especially concerning the proposal of a specimen of *Ch. acuminatum* as an epitype for the Jacquin iconography, IAMONICO *et al.* (2015) also advised rejection of this name.

***Amaranthus major*.** MOQUIN-TANDON (1849: 274) described *A. major* through a short diagnosis (“Caulis tenuis, rigidius-culus, subsimplex”). I found a specimen in MPU (barcode 016839) bearing five pieces of probably the same plant. It would appear that the given specimen is part of Salzmann's collection, to judge from information reported on one of the labels (that at the bottom-center of the sheet). We consider this specimen to be part of the material seen by MOQUIN-

TANDON (1849) and designate it as the lectotype of the name *Amaranthus major*. On the basis of the current concept of *Amaranthus* (BOJIAN *et al.* 2003; MOSYAKIN & ROBERTSON 2003; IAMONICO 2015a), the specimen at MPU is identifiable as *A. viridis* L. We here propose to synonymise *A. major* with *A. viridis*, the latter name having nomenclatural priority.

***Amaranthus maximus* and *Euxolus caudatus* var. *maximus*.** *Amaranthus maximus* was described by MILLER (1768, code “5” in the *Gardener's Dictionary*) to distinguish giant forms of *A. caudatus* (this latter species was coded as “4”). MILLER (l.c.) wrote “caule... arboreo” (in the diagnosis) and “The fifth [*A. maximus*] sort...has a strong stem...height of seven or eight feet” (in the description). The diagnosis also includes “racemis subcylindricis pendulis”, a feature that characterises amaranths currently known as *A. caudatus* (AKEROYD 1993; BOJIAN *et al.* 2003; MOSYAKIN & ROBERTSON 2003). MILLER (l.c.) also cited a synonym from BAUHIN (1623: 120, “*Amaranthus maximus*. C.B.P. 120”), who listed 12 synonyms in his *Pinax Theatri Botanici*, three of which (DODONAEI 1583: 607 and L'OBEL 1576: 95, 1591: 251 as “*Amaranthus majus floribus panniculosis spicatis purpureis*”; and MATTHIOLI 1572: 298 as “*Blitum*”) are linked to iconographies (those from Dodonaei and L'Obel are the same). Matthioli's image (available at <http://bibdigital.rjb.csic.es/ing/Libro.php?Libro=4697&Hojas=>) is difficult to interpret because the flowers are not well shown (in its general structure, the plant resembles an *Amaranthus* taxon), while the illustrations by Dodonaei/L'Obel clearly refer to *A. caudatus*, showing the synflorescences to be pendulous.

There is a specimen at BM (code 000832631) consisting of one plant and two original labels (both just below the plant, “954” and “*Amaranthus maximus* CB – *purpureus major* Park. 1741”). A third label (stamped) indicated “Plants from Chelsea physick garden sent to the Royal Society in Accordance with sir Hans Sloane's deed of conveyance to the apothecaries' company: 1722-96.” W. Jacek (pers. com.) confirmed that this plant was grown in Chelsea Physic Garden in 1741 under Philip Miller's directorship. This exsiccatum matches Miller's diagnosis and is here designated as the lectotype of the name *Amaranthus maximus* (see electronic appendix). It can be identified as *A. caudatus* as currently circumscribed (PIGNATTI 1982; COSTEA *et al.* 2001a, 2006; MOSYAKIN & ROBERTSON 2003).

All of the things stated above confirm that Miller's concept of *A. maximus* completely matches that of Linnaeus' *A. caudatus* (lectotype at LINN, no. 1117.26, designated by TOWNSEND 1974: 10); the two names can thus be considered as heterotypic synonyms, the Linnaean one having nomenclatural priority (1753 vs. 1768).

WILLDENOW (1790: 36) accepted Miller's name under the genus *Amaranthus* and listed it as a synonym

of *A. caudatus*, while MOQUIN-TANDON (1849: 274-275) proposed the new combination *Euxolus caudatus* var. (γ) *maximus*. Based on the description by MOQUIN-TANDON (l.c.), it is clear that he misinterpreted Miller's concept. Both the specimens cited by MOQUIN-TANDON [1849: 275, "In Brasilia (Mart.! n. 969), Guyanâ Anglicâ (Schomb.! n. 702)"] were found. Originally labelled as "*Amaranthus bahiensis*", two duplicates of Martius' specimen no. 969 were found at BR (barcode 000006950460, image available at <http://www.br.fgov.br/RESEARCH/COLLECTIONS/HERBARIUM/detail.php?ID=414488>) and LE (barcode 00001700, image available at <http://plants.jstor.org/stable/10.5555/al.ap.specimen.le00001700>). Both these specimens are identifiable as *A. viridis* according to the current concept (see e.g., BOJIAN *et al.* 2003 and IAMONICO 2015a). As for Schomburgk's specimen no. 702, I found it at P (code 00609943, image available from <http://science.mnhn.fr/institution/mnhn/collection/p/item/p00609943>). This exsiccatum is represented by a part of one plant [on the original label on the left is written "Rameau d'une plante assez grande, à larges feuilles" (= branch of a very large plant, with large leaves)] collected by M.R. Schomburgk in "Guiane anglaise". There is also another label (on the right) that includes two pen scripts: the first one is a determination of the plant and a type indication ("*Amaranthus gracilis* Desf. [Syntype of *Euxolus caudatus* var. *maximus* Moq.]"), the second annotation (certainly added later) represents a correction of the previous syntype indication ("*based on Amaranthus maximus* Mill. ...No type!). Showing a slender and not peduolous inflorescence, flowers with three tepals and wrinkled fruits, the plant can be identified as *A. viridis*. We completely agree that the type indication is incorrect, since Moquin's name is a new combination of the one given by Miller. On the basis of this exsiccatum (which was certainly seen and used by Moquin-Tandon in choosing to transfer *A. maximus* to the genus *Euxolus*), we here confirm misinterpretation by Moquin-Tandon of Miller's species concept and accordingly propose the synonymisation of Moquin's variety with *A. viridis*.

THELLUNG (1919: 337) also treated Miller's species under the genus *Amaranthus*, proposing the new combination *A. gracilis* Desf. var. *maximus* (Mill.) Thell. Here he cited "*Euxolus caudatus* γ . *maximus* Moq." in synonymy to distinguish "Pflanze kräftiger als der mittelmässig ausgebildete Typus, Stengel dick, Laubblätter grösser, Scheinähren dick und dicht" (= "Plant more robust than the mean-size type, stem thick, leaves larger, pseudo-spikes thick and dense"). Thellung's concept matches the Linnaean concept of *A. viridis*.

***Amaranthus spicatus*.** Some authors (ALLIONI 1785: 218; KERGUÉLEN 1993) cited *Amaranthus spicatus* Lam. as a synonym of *A. viridis*, while others (NACCARI 1828: 37; THE PLANT LIST 2010) considered it to be in synonymy with *A. retroflexus* L.

LAMARCK (1778: 192) published the name *Amaranthus spicatus* as a *nomen novum* for *A. viridis* L., listing it among the group "II. Tige droite, forme & point étalée" ("II. Stem erect, firm and point diffuse"). Since the Linnaean name is legitimate and was cited in synonymy, Lamarck's is to be considered illegitimate under Arts. 52.1 and 52.2 of ICN.

Concerning the identity of this name, we cannot draw a final conclusion on the basis of the sparse information given in the *Flore Française*. However, 10 years later, LAMARCK (1789: 117) provided a more detailed description of his *A. spicatus*, specifying that "...les autres [flowers] ...muni de beaucoup d'écaillés sétacées & spinuliformes." ("...the others...have bracts setaceous and spine-shaped."). Since specimens of *A. viridis* never have bracts awned (AKERROYD 1993; COSTEA *et al.* 2001b), it can be stated that Lamarck deviated from the Linnaean concept of the species. A specimen preserved at P (*Herb. Lamarck*, code 00380932, image available from http://www.lamarck.cnrs.fr/ice/ice_page_detail.php?lang=en&type=img&bdd=lamarck&table=corpus_lamarck&bookId=263&typeofbookDes=Herbier&pageOrder=98&facsimile=&search=no) consists of one plant and the annotation "*amaranthus spicatus. encycl. An amaranthus retroflexus. Lin?*". This exsiccatum was probably seen by Lamarck. The plant in question cannot be assigned to *A. viridis*; belonging to the subgenus *Amaranthus* [not the subg. *Albersia* (Kunth) Gren. & Godr.], it can be identified as *A. retroflexus*.

***Euxolus caudatus* var. *gracilis*.** This taxon (sub β -*gracilis*) was described by MOQUIN-TANDON (1849: 274) to distinguish forms with "*foliis parvulis, spicis gracillimis subinterruptis*". MOQUIN-TANDON (l.c.) also provided the provenance ("*In Guyanâ Batavâ (Parker!) et ins. Caribaeis*").

A specimen was found at P (code 00609944) bearing two pieces (a branch with leaves and a terminal synflorescence) of probably the same plant, which was collected by C.F. Parker at the locality "Demerary" (the place name refers to Demerara, a region of Guyana) in the year 1824. This exsiccatum is part of the original material seen by Moquin-Tandon, it matches the diagnosis, and it is here designated as the lectotype of the name *E. caudatus* var. *gracilis*.

With respect to the identity of this variety of Moquin's, the cited specimen at P shows morphological characters that completely match those of *A. viridis* (see e.g., BOJIAN *et al.* 2003; IAMONICO 2015a). As a consequence, we harbour no doubts that this name can be synonymised with the Linnaean *A. viridis* (lectotype at LINN, no. 1117.15).

CONCLUSIONS

On the basis of the above-presented historical study and results concerning the identities of *Amaranthus gracilis*



Figure 1. Lectotype of the name *Amaranthus maximus* Mill. (BM!).

and related names, it is possible to draw the following conclusions (names are listed in chronological order):

- 1) the name *Amaranthus gracilis* was validly published by DESFONTAINES (1804: 43) apparently as a *nomen novum* for *Chenopodium caudatum* Jacq. However, the latter is an ambiguous name and was recently proposed as a *nomen rejectendum* by IAMONICO *et al.* (2015). It follows that the name *A. gracilis* has the same type and, if the proposed rejection of *Ch. caudatum* is accepted, *A. gracilis* should be rejected too according to Art. 56.1 of ICN;
- 2) the name *Amaranthus maximus* (MILLER 1768: *Amaranthus* 5) is to be considered a heterotypic synonym of *A. caudatus* and not recognised under *E. caudatus* (now to be considered a *pro parte* synonym of *A. viridis*), as earlier proposed by MOQUIN-TANDON (1849: 274-275);

- 3) the name *Amaranthus spicatus*, originally published as a *nomen novum* for *A. viridis* (LAMARCK 1778: 192) and subsequently synonymised with *A. viridis*, actually refers to *A. retroflexus*;
- 4) the name *Amaranthus major* Salzm. is a heterotypic synonym of the Linnaean *A. viridis*;
- 5) Moquin's *Euxlus caudatus* var. *gracilis* and var. *maximus* (MOQUIN-TANDON 1849: 274-257), originally published under *E. caudatus* (based on *Ch. caudatum*), actually refer to *A. viridis*; also, Moquin-Tandon misinterpreted Miller's concept of *A. maximus*;
- 6) the proposal by BOISSIER (1879: 992) to combine the Jacquin name under *Albersia* (now accepted at the rank of a subgenus of *Amaranthus*) is not correct because the basionym used by Boissier – *Ch. caudatum* – cannot be ascribed to any species included in Chenopodiaceae or *Amaranthus*. In addition, on the basis of Boissier's description, the name *Albersia caudata* (Jacq.) Boiss. has to be considered a *pro parte* synonym of *A. viridis*.

***Amaranthus caudatus* L.**, Sp. Pl. 2: 990. 1753. – Type (designated by Townsend 1974: 10): Habitat in Perù, Persia, Zeylonia, Herb. Linn. No. 1117.26 (lectotype LINN!). Image of the lectotype available at <http://linnean-online.org/11652/>

= *Amaranthus maximus* Mill., Gard. Dict., ed. 8: *Amaranthus* 5. 1768. – Lectotype (here designated: BM): United Kingdom, London, Chelsea Physic Garden, 1741, *sine coll.* 954 (Fig. 1).

***Amaranthus gracilis* Desf.**, Tabl. Écol. Bot.: 43. 1804, non *Chenopodium caudatum* Jacq., Collectanea [Jacquin]: 325. 1789b, *nomen ambiguum*
– *Amaranthus gracilis* Poir., Encycl. [J. Lamarck & al.]: 312. 1810, **isonym** (Art. 6.3 Note 2 of the ICN).

***Amaranthus retroflexus* L.**, Sp. Pl. 2: 991. 1753. – Type (designated by Townsend 1974: 12): Habitat in Pennsylvania, Herb. Linn. No. 1117.22 (lectotype LINN!). Image of the lectotype available at <http://linnean-online.org/11648/>.

= *Amaranthus spicatus* Lam., Fl. Franç. [Lamarck] 2: 192. 1778, *nom. illeg.* (Arts. 52.1 and 52.2 of the ICN).

***Amaranthus viridis* L.**, Sp. Pl., ed. 2, 2: 1405. 1763. – Type (designated by Fawcett & Rendle 1914: 131): Habitat in Europa, Brasilia, Herb. Linn. No. 1117.15 (lectotype LINN!). Image of the lectotype available from <http://linnean-online.org/11641/>.

≡ *Glomeraria viridis* (L.) Cav., Descr. Pl.: 319. 1802.

≡ *Euxolux viridis* (L.) Moq., Prodr. [DC.] 13(2): 273. 1849.

≡ *Pyxidium viride* (L.) Moq., Prodr. [DC.] 13(2): 273. 1849.

= *Amaranthus major* Salzm. ex Moq., Prodr. [DC.] 13(2): 274. 1849, *syn. nov.* – Lectotype (here designated: MPU-016839!): Brazil, Bahia, November, Salzmann *s.n.* Image

of the lectotype available from <http://www.herbier-mpu.org/zoomify/zoomify.php?fichier=MPU016839>.

= *Euxolus caudatus* (Mill.) Moq. var. *gracilis* Moq., Prodr. [DC.] 13(2): 274. 1849. – Lectotype (here designated: P-00609944!): South America, Guyana, *Demerary*, 1824, C.F. Parker s.n. Image of the lectotype available from <http://science.mnhn.fr/institution/mnhn/collection/p/item/p00609944>.

– *Euxolus caudatus* (Mill.) Moq. var. *maximus sensu* Moquin-Tandon, Prodr. [DC.] 13(2): 274. 1849.

– *Albersia caudata sensu* Boissier, Fl. Orient. 4: 992. 1879 *pro parte non Chenopodium caudatum* Jacq.

– *Amaranthus gracilis* Desf. var. *maximus sensu* Thellung, Syn. Mitteleur. Fl. 5: 337. 1919.

– *Amaranthus gracilis sensu auctorum non* Desfontaines (1804: 43).

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REZIME

Nomenklaturno istraživanje roda *Amaranthus* (Amaranthaceae). 4. Intrigantna pitanja oko imena *Amaranthus gracilis*

Duilio Iamónico

Ovaj rad predstavlja četvrti prilog serije čiji je krajnji cilj razumevanje komplikovane nomenklature roda *Amaranthus*. Istraživanje se bavi neophodnošću da se ustanovi identitet imena *Amaranthus gracilis* Desf. i sa njim povezanih imena. Na osnovu opsežnih analiza literature, proučavanja herbarijumskih primeraka i terenskih istraživanja, intrigantna nomenklaturna pitanja došla su do izražaja. *Amaranthus gracilis* je objavljen kao *nomen novum pro Chenopodium caudatum* Jacq. Prema skorašnjem radu IAMONICO *et al.* (2015), *Ch. caudatum* se ne može smatrati niti članom familije Chenopodiaceae niti vrstom roda *Amaranthus*, tako da je predložen kao *nomen rejectendum*. Pogrešno tumačenje Desfontaines-a nikada nije dublje razmatrano, tako da je većina autora povezivala *A. gracilis* sa *A. viridis*. Analizom literature otkriveno je nekoliko pogrešnih upotreba. Kombinacije *Euxolus caudatus* (Jacq.) Moq. i *Albersia caudata* (Jacq.) Boiss. su *pro parte* sinonimi *A. viridis*, kao i novi varijetet po MOQUIN-u *Euxolus caudatus* var. *gracilis* (lektotip ovde određen, primerak deponovan u P) i kombinacija *Euxolus caudatus* var. *maximus* (Mill.) Moq. Bazionim *Amaranthus maximus* Mill. (lektotip ovde određen, primerak deponovan u BM) je heterotipski sinonim *A. caudatus* L. Na osnovu dobijenih rezultata *Amaranthus gracilis* ima isti tip kao *Ch. caudatum* i, ako predlog odbijanja ovog poslednjeg imena bude prihvaćen, ime Desfontaines-a treba, takođe, da bude odbačeno, prema Članu 56.1 ICN-a. Ime *A. major* (lektotipifikacija u ovom radu urađena na osnovu primerka deponovanog u MPU) je predložena kao heterotipski sinonim *A. viridis*, pri čemu ovo poslednje ime ima nomenklaturni prioritet.

KLJUČNE REČI: *Amaranthus viridis*, *Chenopodium acuminatum*, *Ch. caudatum*, pogrešna upotreba imena, N.J. Jacquin, tipifikacija