



<http://dx.doi.org/10.11646/phytotaxa.173.3.6>

***Arenaria tenuifolia* versus *Arenaria hybrida* (Caryophyllaceae): Nomenclatural study and taxonomic implications**

DUILIO IAMONICO¹

¹ Laboratory of Phytogeography and Applied Geobotany, Department PDTA, Section Environment and Landscape, University of Rome Sapienza, 00196 Roma, Italy. Email: d.iamonico@yahoo.it

Abstract

The Linnaean name *Arenaria tenuifolia* (Caryophyllaceae) is lectotypified on a specimen preserved at LINN (no. 585.36). To verify its identity, the names *A. dichotoma* (*nom. illeg.*), *A. hybrida* (currently *Sabulina tenuifolia*), *A. tenuifolia* var. *vaillantiana* (currently *S. tenuifolia* subsp. *vaillantiana*), *Minuartia hybrida* var. *palaestina*, *M. hybrida* var. *parviflora*, and *M. hybrida* subsp. *turcica* (currently *S. tenuifolia* subsp. *turcica*) were investigated. Two iconography, one by Villars and a second by Vaillant are designated as lectotypes of *A. hybrida*, and *A. tenuifolia* var. *vaillantiana* respectively. In addition, the holotypes of *M. hybrida* var. *palaestina*, *M. hybrida* var. *parviflora*, and *M. hybrida* subsp. *turcica* (basyonim of *S. tenuifolia* subsp. *turcica*) were examined at WU (var. *parviflora*) and E (var. *palaestina*, and subsp. *turcica*). The results show that Linnaeus's 1753 *A. tenuifolia*, has priority over Villars' 1779 *A. hybrida*. Therefore we here confirm the treatment of these two names by M. Dillenberger and J. Kadereit although neither name was typified by them. All of the above names are included in *Sabulina*. Since var. *palaestina* and var. *parviflora* have not yet transferred to *Sabulina* two new combinations are proposed herein, namely *S. tenuifolia* var. *palaestina*, and *S. tenuifolia* var. *parviflora*.

Keywords: *Arenaria*, illegitimate name, *Minuartia sensu lato*, new combination, *Sabulina*, typification

Introduction

Arenaria Linnaeus (1753: 423) is a genus of more than 200 species distributed mainly in north temperate regions (Halliday 1993, Wu & Wanger 2001, Hartman *et al.* 2005). Linnaeus published 29 species in *Arenaria* (see Jarvis 2007: 311–313), and defined the genus broadly. Today, members of Linnaeus' genus are assigned to *Honkenya* Ehrhart (1783: 206), *Minuartia* Linnaeus (1753: 89), *Moheringia* Zumaglini (1860: 166), *Sabulina* Reichenbach (1832: 24), and *Spergularia* (Persoon 1805: 504) J.Presl & C.Presl (1819: 94) (see Greenberg & Donoghue 2011, Dillenberger & Kadereit, 2014). Of the Linnaean names, six appear to be untypified, and one—*Arenaria tenuifolia* Linnaeus (1753: 424)—is now assigned to *Sabulina*; the other five Linnaean names, all members of *Arenaria*, will be the subject of a future paper (Iamónico in prep.). Dillenberger & Kadereit synonymized *A. tenuifolia*, along with *A. hybrida* Villars (1779: 48), under *S. tenuifolia* (Linnaeus) Reichenbach (1832: 785) without typifying either name.

The present work is part of a review of *Arenaria* for a new edition of the Flora of Italy (see e.g., Conti *et al.* 2014; Iamónico 2011, 2013).

Material and methods

This paper is based on an analysis of the relevant literature (protoglyphes included), on floristic surveys (field collected material is deposited at HFLA), and on an examination of specimens preserved at E, FI, GRM, LINN, LIV, and RO (acronyms according to Thiers 2011).

References

- Acta Plantarum (2007-onward) *Scheda IPNI : Minuartia hybrida (Vill.) Schischk.* Available from http://www.actaplantarum.org/flora/flora_info.php?id=5128 (accessed: 01 Apr 2014).
- Ascherson, P. & Graebner, P. (eds.) (1902) *Synopsis der Mitteleuropäischen flora, Volume 6(1)*. Wilhelm Engelmann, Leipzig, 948 pp.
<http://dx.doi.org/10.5962/bhl.title.35810>
- Bauhin, J. & Cherler, J.H. (1651) *Historia plantarum universalis, Volume 3*. Ebrouduni, 882 pp.
- Boissier, P.E. (1853). *Diagnoses plantarum orientalium novarum*. Series 2, part 1. Lipsiae, B. Herrmann.
- Briquet, J. (1910). *Prodrome flora de la flore Corse, Volume 1*. Bale & Lyon, Georg & Co, Gèneve, 656 pp.
- Cariot, A.A. & Saint-Lager, J.B. (1899) *Étude des fleurs. Botanique élémentaire, descriptive et usuelle, ed. 8, Volume 2*. Huitième, Lyon.
<http://dx.doi.org/10.5962/bhl.title.12109>
- Conti, F., Bartolucci, F., Iamonico, D. & Del Guacchio, E. (2014) A new combination in *Mcneillia* (Caryophyllaceae) for the Italian flora.
Phytotaxa 170(2): 139–140.
<http://dx.doi.org/10.11646/phytotaxa.170.2.8>
- Crantz, H.J.N. (1766) *Institutione rei herbariae, Volume 2*. Ioannis Pauli Kraus, Wien, 550 pp.
- Desportes, N. (1838) *Flora de la Sarthe et de la Mayenne*. Richelet & Roret, Le Mans & Paris, pp. 528.
- Dillenberger, M.S. & Kadereit, J.W. (2014) Maximum polyphyly: Multiple origins and delimitation with plesiomorphic characters require a new circumscription of *Minuartia* (Caryophyllaceae). *Taxon* 63: 64–88.
<http://dx.doi.org/10.12705/631.5>
- Ehrhart, J.F. (1783) Botanische Zurechtweisungen und Beschreibung zweyer neuen Pflanzen, *Moenchia und Honckenya*. *Neues Magazin für Aerzte* 5: 193–208.
- Favarger, C.P.E. & Montserrat, P. (1990) *Minuartia L.* In: Castroviejo, S. & al (eds.), *Flora Iberica, Volume 2*. Real Jardín Botánico, Madrid, pp. 235–252.
- Fourreau, J.P. (1868) Catalogue des plantes qui croissent spontanément le long du cours du rhône. *Annales de la Société Linnéenne de Lyon*, sér. 2, 16: 301–404.
- Friedrich, H.C. (1962) Caryophyllaceae Juss. In: Hegi, G. (ed.), *Illustrierte Flora von Mittel-Europa, Volume 3(2)*. J.F. Lehmanns, München, pp. 763–1182.
- Greenberg, A.K. & Donoghue, M.J. (2011) Molecular systematic and character evolution in Caryophyllaceae. *Taxon* 60: 1637–1652.
- Guettard, M. (1747) *Observations sur les plantes, Volume 2*. Durand, Paris, 494 pp.
- Gussone, G. 1843. *Florae siculae synopsis, Volume 1*. Tramater, Napoli, 582 pp.
- Halliday, G. (1993) *Minuartia 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 europea (second edition), Volume 1*. Cambridge University Press, Cambridge, pp. 152–160.
- Hartman, R., Rabeler, R.I. & Utech, F. (2005) *Arenaria L.* In: Flora of North America Editorial Committee (eds.), *Flora of North America north of Mexico, Volume 4*. Oxford University Press, New York & Oxford, pp. 51–56.
- Hiern, W.P. (1899) *Alsine* in the British Flora. *Journal of Botany, British and Foreign* 37: 317–322.
- Iamonico, D. (2011) Notula 1829. *Arenaria gothica* Fr. subsp. *moehringioides* (J. Murr) M.B. Jacks. & J. Parn. (Caryophyllaceae). Notulae nomenclaturali alla Checklist della flora italiana: 11. *Informatore Botanico Italiano* 43: 143.
- Iamonico, D. (2013) Taxonomical and chorological study on the central Mediterranean Basin endemic *Arenaria bertolonii* Fiori & Paol. (Caryophyllaceae). *Plant Biostystems* 147: 923–930.
- Jalas, J. & Suominen, J. (1988) *Atlas floriae Europeae. Distribution of vascular plants in Europe, Volume 3*. Helsinki University Printing House, Helsinki, 416 pp.
- Jarvis, C.E. (2007) *Order out of Chaos; Linnaean Plant Names and their Types*. Linnean Society of London and the Natural History Museum, London, 1016 pp.
- Jordan, C.T.A. (1852) *Pugillus plantarum novarum præsertim gallicarum*. J.-B. Baillièvre, Paris, 148 pp.
- Kerguélen, M. (1993) *Index synonymique de la flore de France*. Available from www2.dijon.inra.fr/bga/fdf/am.htm (accessed: 01 Apr 2014).
- Linnaeus, C. (1753) *Species plantarum, Volume 1*. Laurentii Salvius, Stockholm, 560 pp.
- Linnaeus, C. (1759) *Systema naturae, ed. 10, Volume 2*. Laurentii Salvii, Stockholm, 559 pp.
- Marhold, C. (2011) *Caryophyllaceae Juss. – Euro+Med Plantbase - the information resource for Euro-Mediterranean plant diversity*. Available from <http://ww2.bgbm.org/EuroPlusMed/PTaxonDetail.asp?NameId=100852&PTRefFk=7200000> (accessed: 01 Apr 2014).
- Martius, C.F.P. (1814) *Plantarum horti academici Erlangensis enumeratio: Adjectis specierum novarum vel minus cognitarum*

- descriptionibus atque illustrationibus*. Hilpertianis, Erlangae, 210 pp.
- Mattfeld, J. (1921) Enumeration specierum generis *Minuartia* (L.) emend. Hiern. *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie* 57(2): 27–34.
- McNeill, J. (1962) Taxonomic studies in the Alsinoideae: I. Generic and infrageneric groups. *Notes from the Royal Botanic Garden Edinburgh* 24: 79–156.
- McNeill, J. (1963) Taxonomic studies in the Alsinoideae: II. A revision of the species in the Orient. *Notes from the Royal Botanic Garden Edinburgh* 24: 241–404.
- 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., Proud'Homme 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.
- Moench, C. (1794) *Methodus plantas horti botanici et agri Marburgensis: A staminum situ describendi, Volume 2*. Officina Nova Libraria Academiae, Marburgi Cattorum, 328 pp.
<http://dx.doi.org/10.5962/bhl.title.304>
- Moss, C.E. & Hunnibun, E.W. (1920) *The Cambridge British flora, Volume 3*. Cambridge University Press, Cambridge, 41 pp.
- Persoon, C.H. (1805) *Synopsis plantarum, Volume 1*. J.C. Cottam, Parisiis, 546 pp.
- Pignatti, S. (1982) *Flora d'Italia, Volume 1*. Bologna, Edagricole, 790 pp.
- Presl, J.S. & Presl C.B. (1819) *Flora Čechica*. J.C. Calvae, Pragae, 224 pp.
- Reichenbach, L. (1832) *Flora Germanica Excursionia, Volume 2*. Carolum Cnobloch, Lipsiae, 878 pp.
- Sampaio, G. (1913) *Lista das Especies Representadas no Herbario Portugues*. Gabinete de Botânica da Faculdade de Ciências do Porto, Porto, 148 pp.
- Schischkin, B.K. (1936) Caryophyllaceae Juss. In: Komarov, V.L. (ed.), *Flora URSS, Volume 6*. Akad. Nauk SSSR, Moskwa-Leningrad, pp. 296–660.
- Seguier, J.F. (1745) *Plantae Veronenses seu stirpium quae in agro Veronensi reperiuntur, Volume 1*. Typis Seminarii, Veronae, 516 pp.
- Seringe, N.C. (1824) Caryophylleae. In: Candolle, A.P. de, *Prodromus systematis naturalis regni vegetabilis, Volume 1*. Treuttel et Würtz, Parisiis, pp. 351–367, 385–422.
- Tan, K.W. & Mill, R.R. (1988) *Minuartia* L. In: P.H. Davis (ed.), *Flora of Turkey, Volume 10*. Edinburgh University Press, Edinburgh, pp. 67–69.
- Tela Botanica (2009) *Tela Botanica: Le réseau de la botanique francophone*. Available from <http://www.tela-botanica.org/eflore/BDNFF/4.02/nn/6343/synonymie> (accessed: 01 Apr 2014).
- Tenore, M. (1823) *Flora medica universale, e flora particolare della provincia di Napoli*. Tipografi adel Giornale Encicopedico di Napoli, Napoli, pp. 620.
- Thiers, B. (2011) *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: 01 Apr 2014).
- Thuillier, J.L. (1799) *La flore des environs*, 2. Durand, Paris, 550 pp.
- Vaillant, S. (1727) *Botanicon parisiense*. Jean & Herman Verbeek & Balthzar Lakeman, Leiden & Amsterdam, 205 pp.
- Villars, M. (1779) *Prospectus de l'Histoire des plantes de Dauphiné, et d'une nouvelle méthode de botanique, suivi d'un catalogue des plantes*. L'Imprimeire Royale, Grenoble, 57 pp.
- Villars, M. (1786) *Histoire des plantes de Dauphiné*, 1. Freres Périssé, Piestre & dg La Molliere, & Prevost, Grenoble, Lyon & Paris, 468 pp.
- Villars, M. (1787) *Histoire des plantes de Dauphiné*, 2. Freres Périssé, Piestre & dg La Molliere, & Prevost, Grenoble, Lyon & Paris, 690 pp.
- Villars, M. (1788–1789) *Histoire des plantes de Dauphiné*, 3(1). Piestre & dg La Molliere, & Prevost, Grenoble, Lyon & Paris, Freres Périssé, 580 pp.
- Villars, M. (1789) *Histoire des plantes de Dauphiné*, 3(2). Freres Périssé, Piestre & dg La Molliere, & Prevost, Grenoble, Lyon & Paris, 509 pp.
- Willkomm, M. (1852) *Icones et descriptiones plantarum novarum criticarum et rariorum Europea-Astro occidentalis praecipuae Hispaniae, Volume 1*. A. H. Payne, Lipsiae, 123 pp.
- Wu, Z. & Wagner, W.L. (2001) *Arenaria* L. In: Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.), *Flora of China, Volume 6*. Science Press, Beijing and Missouri Botanical Garden Press, St. Louis, pp. 40–66.
- Zumaglini, A.M. (1860) *Flora Pedemontana, sive species plantarum in Pedemonte et Liguria sponte nascentium, Volume 2*. Ardizzone e soci, Bugellae.