



Studies on the genus *Atriplex* (Amaranthaceae) in Italy. V. *Atriplex tornabenei*

DUILIO IAMONICO¹

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

Abstract

The typification of the name *Atriplex tornabenei* (a nomen novum pro *A. arenaria*) is discussed. An illustration by Cupani is designated as the lectotype, while a specimen from FI is designated as the epitype. Chorological and morphological notes in comparison with the related species *A. rosea* and *A. tatarica* are also provided. A nomenclatural change (*Atriplex tornabenei* subsp. *pedunculata* stat. nov.) is proposed.

Key words: *Atriplex tornabenei* var. *pedunculata*, epitype, infraspecific variability, lectotype, Mediterranean, nomenclatural change, nomen novum

Introduction

Atriplex Linnaeus (1753: 1054) is a genus of about 260 species distributed in arid and semiarid regions of Eurasia, America and Australia (Sukhorukov & Danin 2009).

Several names (at species, subspecies, variety and form ranks) were described related to the high phenotypic variability of this critical genus (Al-Turki *et al.* 2000). As consequence, misapplication of names and nomenclatural disorders exist and need clarification.

In this paper, the identity of the *A. tornabenei* Tineo ex Gussone (1843: 589) is discussed as part of the treatment of the genus *Atriplex* for the new edition of the Italian Flora (editor, Prof. S. Pignatti) and within the initiative “*Italian Loci Classici Census*” (Domina *et al.* 2012) launched in 2010 under the auspices of the Italian Botanic Society (e.g. Iamónico 2010, 2012a, 2012b, 2013, Iamónico *et al.* 2011, Di Pietro *et al.* 2012, Gallo *et al.* 2012, Iamónico & Reveal 2012, Amadei *et al.* 2013).

Materials and Methods

The present study was carried out by an extensive analysis of literature (protologues included), personal field investigations and the examination of the specimens kept in the Herbaria APP, FI, GZU, HFLA, KUFS, LINN, MA, NAP, P, PAL, RO, and W (acronyms according to Thiers 2011). The descriptions are based on personal observations.

Typification of the names

Gussone’s protologue (Gussone 1843: 589) consists of a detailed diagnosis and description with two synonyms cited from Tineo (1827: 276-277) and Cupani (1696: 27), the first one referred to *A. arenaria* Tineo (1827: 276), a later heterotypic synonym of *A. arenaria* Nuttall (1818: 198) and so, an illegitimate name under the art. 53.1 of the ICN (McNeill *et al.* 2012). Therefore, Gussone (l.c.) proposed a new name pro *A. arenaria*

***Atriplex rosea* L.**:—CYPRUS. **Limassol**: zypern archäologischen Gelände des Heiligtums der Aphrodite, 22 June 1996, *Walter* 7920 (W!); ITALY. **Lazio**: Cerenova (Lido di Cerveteri), spiaggia, paludi, ruderi, ecc., 23 October 1977, *Anzalone* (RO!); Ladispoli-Cerenova, loc. Campo di Mare, September 1985, *Anzalone* (RO!); SPAIN. **Madrid**: Colemar de Oreja près de Madrid, 19 September 1980, *Sag* 1007 (P!).

Acknowledgements

Thank are due to Directors and Curators of all quoted Herbaria for their support during my visits, loan of specimens/photographs. Special thanks to A. Managlia (Bologna) for the information about the rare works by Cupani and Bonanni and Alexander P. Sukhorukov for the revision of the manuscript.

References

- Aellen, P.L. (1961) *Atriplex* L. In: Hegi, G. (ed.), *Illustrierte Flora von Mitteleuropa* 3(2). Carl Hanser Verlag, München, pp. 664–693.
- Akeroyd, J.R. (1993) *Atriplex* 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 University Press, Cambridge, pp. 115–117.
- Al-Turki, T.A., Omer, S. & Ghafoor, A. (2000) A synopsis of the genus *Atriplex* L. (Chenopodiaceae) in Saudi Arabia. *Feddes Repertorium* 111: 261–293.
<http://dx.doi.org/10.1002/fedr.20001110503>
- Amadei, L., Baldini, R., Maccioni, S. & Peruzzi, L. (2013) Lectotypification of two *Origanum* names (Lamiaceae) described by Gaetano Savi. *Atti della Società Toscana di Scienze Naturali, Memorie, serie B* 119 (2012): in press.
- Arcangeli, G. (1882) *Compendio della flora italiana*. Ermanno Loescher, Torino, 889 pp.
- Arcangeli, G. (1884) *Flora italiana ed. 2*. Tipografia Vincenzo Bona, Torino, 836 pp.
- Ascherson, P. (1864) *Flora der Provinz Brandenburg, der Altmark und des Herzogthums Magdeburg*. Berlin: Verlag Von Huguft Hirschwald, 1034 pp.
- Bertoloni, A. (1854) *Flora italica* 10. Ex Typographaeo Haeredum Richardi Masii, Bologna, 640 pp.
- Bonanni, A. (ed.) (1719) *Panphyton Siculum ed. 2*. Panormi, 168 pp.
- Caruel, T. (1893) *Flora italiana, ossia descrizione delle piante che crescono spontanee o vegetano come tali in Italia e nelle isole ad essa adiacenti, disposte secondo il metodo naturale* 10. Tipografico Fiorentino, Firenze, 234 pp.
- Castroviejo, S. (1987) Notas sobre *Atriplex* ibérica. *Anales del Jardín Botánico de Madrid* 43 (1986): 475.
- Castroviejo, S. (1990) *Atriplex* L. In: Castroviejo, S., Lainz, M., López Gonzáles, G., Montserrat, P., Muñoz Garmendia, F., Paiva, J. & Villar, L. (eds.), *Flora Iberica* 2. Real Jardín Botánico, Madrid, pp. 503–513.
- Conti, F., Abbate, G., Alessandrini, A. & Blasi, C. (eds.) (2005) *An annotated checklist of the Italian vascular flora*. Palombi & Partner, Roma, 420 pp.
- Conti, F., Alessandrini, A., Bacchetta, G., Banfi, E., Barberis, G., Bartolucci, F., Bernardo, L., Bonacquisti, S., Bouvet, D., Bovio, M., Brusa, G., Del Guacchio, E., Foggi, B., Frattini, S., Galasso, G., Gallo, L., Gangale, C., Gottschlich, G., Grünanger, P., Gubellini, L., Iriti, G., Lucarini, D., Marchetti, D., Moraldo, B., Peruzzi, L., Poldini, L., Prosser, F., Raffaelli, M., Santangelo, A., Scassellati, E., Scortegagna, S., Selvi, F., Soldano, A., Tinti, D., Ubaldi, D., Uzunov, D. & Vidali, M. (2007) Integrazioni alla checklist della flora vascolare italiana. *Natura Vicentina* 10 (2006): 5–74.
- Cupani, F. (1696) *Hortus Catholicus, ed. 2*. Ed. Franciscum Benzi, Neapoli, 262 pp.
- Cupani, F. (1713) *Pamphyton Siculum*. Epiro, Panormi, 1440 pp.
- De Candolle, A. (1849) *Prodromus Systematis Regni Vegetabilis* 13(1). Sumptibus Victois Masson, Parisiis, 741 pp.
- Di Pietro, R., Viscosi, V., Peruzzi, L. & Fortini, P. (2012) A review of the application of the name *Quercus dalechampii*. *Taxon* 61: 1311–1316.
- Domina, G., Giusso Del Galdo, G., Gargano, D., Labra, M., Peccenini, S., Peruzzi, L. & Raimondo, F.M. (2012) The Italian Loci Classici Census. *Taxon* 61: 1351–1353.
- Fiori, A. (1923) *Nuova Flora Analitica d'Italia* 1. Ed. M. Ricci, Firenze, 944 pp.
- Fiori, A. & Paoletti, G. (1898) *Flora Analitica Italia* 1. Tipografia del Seminario, Padova, 944 pp.
- Gallo, L., Guglielmo, L. & Nardi, E. (2012) Typification of *Alyssum argenteum* All. (Brassicaceae) and of *Sedum alsinifolium* All. (Crassulaceae), two Italian endemic taxa. *Webbia* 67: 183–188.
<http://dx.doi.org/10.1080/00837792.2012.10670918>
- Gussone, G. (1843) *Florae siculae synopsis* 2(1). Ex Typis Tramater, Napoli, 920 pp.

- Hedge, I. (1997) *Atriplex tatarica* L. In: Rechinger, K.H.. (ed.) *Flora Iranica* 172. Akad. Druck, Graz, pp. 63–87.
- Iamónico, D. (2010) *Malva subovata* subsp. *bicolor*, comb. & stat. nov. (Malvaceae). *Annales Botanici Fennici* 47: 312–314.
<http://dx.doi.org/10.5735/085.047.0409>
- Iamónico, D. (2012a) *Amaranthus powellii* S.Watson subsp. *cacciatoi* comb. & stat. nov. (Amaranthaceae). *Nordic Journal of Botany* 30: 12–16.
<http://dx.doi.org/10.1111/j.1756-1051.2011.01080.x>
- Iamónico, D. (2012b) Studies on the genus *Atriplex* L. (Amaranthaceae) in Italy. II. Lectotypification of *Atriplex elongata* Guss. (Amaranthaceae). *Candollea* 67: 181–185.
- Iamónico, D. (2013) Taxonomical and chorological study on the Central Mediterranean Basin endemic *Arenaria bertolonii* Fiori & Paol. (Caryophyllaceae). *Plant Biosystems* (in press).
<http://dx.doi.org/10.1080/11263504.2012.753956>
- Iamónico, D. & Buono, V. (2013) Rinvenimento di *Atriplex tornabenei* (Chenopodiaceae) in Puglia a 30 anni circa dalla sua prima segnalazione. *Thalassia Salentina* 35: 37–42.
<http://dx.doi.org/10.1285/i15910725v35p37>
- Iamónico, D. & Del Guacchio, E. (2012) Notula 1931. Notulae alla Checklist della flora italiana: 14. *Informatore Botanico Italiano* 44: 391–392.
- Iamónico, D., Giovi, E., Iberite, M. & Abbate, G. (2011) Typification of *Trifolium latinum* Sebast. (Fabaceae) and comparison with related species. *Annales Botanici Fennici* 48: 459–464.
<http://dx.doi.org/10.5735/085.048.0603>
- Iamónico, D. & Reveal, J.L. (2012) Lectotypification of the Linnaean name *Carpinus ostrya* L. (Betulaceae). *Taxon* 61: 866.
- 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.
- Kadereit, G., Mavrodiev, E.V., Zacharias, E.H. & Sukhorukov A.P. (2010) Molecular phylogeny of Atripliceae (Chenopodioideae, Chenopodiaceae): implications for systematics, biogeography, flower and fruit evolution, and the origin of C4 photosynthesis. *American Journal of Botany* 97: 1664–1687.
<http://dx.doi.org/10.3732/ajb.1000169>
- Lange, J. (1856–1859) *Haandbog i Den Danske Flora*. C.A. Reitzels Forlag, Kjøbenhavn, 764 pp.
- Linnaeus, C. (1753) *Species Plantarum* 2. Laurentii Salvii, Stockholm, 899 pp.
- Linnaeus, C. (1763) *Species Plantarum* ed. 2 2. Laurentii Salvii, Holmiae, 899 pp.
- McNeill, J., Basset, I.J., Crompton, C.W. & Taschereau, P.M. (1983) Taxonomic and nomenclatural notes on *Atriplex* L. (Chenopodiaceae). *Taxon* 32: 549–556.
- 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.
- Nuttall, T. (1818) *The Genera of North America Plants 1, and a catalogue of the species, to the year 1817*. D. Heartt, Philadelphia, 312 pp.
- Pastor, J. & Juan, R. (1990) Estudio carológico del genero *Atriplex* (Chenopodiaceae) en Andalucía occidental. *Lagascalia* 16: 3–14.
- Pastor, J., Diosado, J.C., Santa-Bárbara, C., Vjoque, J. & Pérez, E. (1990) Números cromosómicos para la flora española. *Lagascalia* 15: 269–282.
- Pignatti, S. (1982) *Flora d'Italia* 1. Edagricole, Bologna, 790 pp.
- Sukhorukov, A.P. (2006) Zur Systematik und Chorologie der in Russland und benachbarten Staaten (in den Grenzen der ehemaligen UdSSR) vorkommenden *Atriplex*-Arten (Chenopodiaceae). *Annalen des Naturhistorischen Museums in Wien*, 108 B: 307–420.
- Sukhorukov, A.P. & Danin, A. (2009) Taxonomic notes on *Atriplex* sect. *Teutliopsis* and sect. *Atriplex* in Israel and Syria. *Flora Mediterranea* 19: 15–23.
- 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: 21 April 2012).
- Tineo, V. (1827) *Catalogus plantarum Horti Regii Panormitani*. Ex Regali Typographia, Panormi, 284 pp.
- Uotila, P. (2011) *Atriplex*. Euro+Med Plantbase -- the information resource for Euro-Mediterranean plant diversity. Available from <http://ww2.bgbm.org/EuroPlusMed/PTaxonDetail.asp?NameId=17754&PTRefFk=7300000> (accessed: 12 April 2012).
- Zhu, G., Mosyakin, S. L. & Clemants, S. E. (2003). *Atriplex* L. In: Wu, Z. Y., Raven, P.H. & Hong, D.Y. (eds.), *Flora of China* 5. Science Press, Beijing and Missouri Botanical Garden Press, St. Louis, pp. 360–365.