

On the occurrence of *Oxybasis rubra* (Amaranthaceae) in Sardinia, with notes on *Chenopodium blitoides* and *C. humile*

DUILIO IAMONICO¹ & GIULIANO MEREU²

¹ Department of Environmental Biology, Sapienza University of Rome, piazzale Aldo Moro 5, I-00185 Rome, Italy

² Via Alghero 17, I-08042 Bari Sardo (NU), Italy

ORCID iD. D. IAMONICO: <https://orcid.org/0000-0001-5491-7568>,

G. MEREU: <https://orcid.org/0009-0004-7508-1682>

Author for correspondence: D. Iamónico (duilio.iamonico@uniroma1.it)

Editor: L. Sáez

Received 7 January 2024; accepted 7 February 2024; published on line 27 January 2025

Abstract

ON THE OCCURRENCE OF *OXYBASIS RUBRA* (AMARANTHACEAE) IN SARDINIA, WITH NOTES ON *CHENOPODIUM BLITOIDES* AND *C. HUMILE*.—As part of an ongoing study on the genus *Chenopodium* s. l., 20 populations of *Oxybasis rubra* var. *rubra* were discovered in Sardinia, representing a confirmation of this taxon in the Mediterranean Island. In fact, based on literature, *O. rubra* was differently indicated in Sardinia over the time as occurring, doubtful or absent. Morphological characters, as well as ecological and chorological data are given. Nomenclatural notes about the names *C. blitoides* and *C. humile* are provided and neotypifications were proposed using specimens preserved, respectively, at the Herbaria BR and K.

Key words: Amaranthaceae; Italy; *Oxybasis*; *Oxybasis rubra* var. *humile*; synonymy; typification.

Resumen

SOBRE LA PRESENCIA DE *OXYBASIS RUBRA* (AMARANTHACEAE) EN CERDEÑA, CON NOTAS SOBRE *CHENOPODIUM BLITOIDES* Y *C. HUMILE*.—Como parte de los estudios en curso del género *Chenopodium* s. l., se descubrieron 20 poblaciones de *Oxybasis rubra* var. *rubra* en Cerdeña, representando una confirmación de este taxon para la flora de la isla. De hecho, según la literatura, *O. rubra* fue indicada de manera diferente en Cerdeña a lo largo del tiempo como presente, dudosa o ausente. Se dan caracteres morfológicos, así como datos ecológicos y corológicos. Se proporcionan notas nomenclaturales sobre los nombres *C. blitoides* and *C. humile*, y se proponen neotipificaciones utilizando especímenes conservados, respectivamente, en los herbarios BR y K.

Palabras clave: Amaranthaceae; Italia; *Oxybasis*; *Oxybasis rubra* var. *humile*; sinonimia; tipificación.

Cómo citar este artículo / Citation

Iamónico, D. & Mereu, G. 2024. On the occurrence of *Oxybasis rubra* (Amaranthaceae) in Sardinia, with notes on *Chenopodium blitoides* and *C. humile*. *Collectanea Botanica* 43: e0003. <https://doi.org/10.3989/collectbot.2024.v43.0003>

Copyright

© 2024 CSIC. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International (CC BY 4.0) License.

INTRODUCTION

The genus *Oxybasis* Kar. & Kir. (Amaranthaceae *s. l. sensu* APGIII, 2009; APGIV, 2016) was restored as a separate genus from *Chenopodium* L. based on morphological and molecular data by Fuentes-Bazan *et al.* (2012; see also Hernández-Ledesma *et al.*, 2015), and it currently contains *ca.* 13 species, classified in five sections (Mosyakin, 2013, 2018). *Oxybasis* is nowadays widely accepted by many authors (e.g. Mosyakin, 2013; Sukhorukov *et al.*, 2013, 2015; Verloove, 2013; Iamónico, 2014; Sukhorukov, 2014; Mered'a, 2016).

Oxybasis rubra (L.) S. Fuentes, Uotila & Borsch is naturally distributed in the northern temperate hemisphere (POWO, 2024). It is a morphological variable species that has often misidentified as *O. chenopodioides* (L.) S. Fuentes, Uotila & Borsch (see e.g. Iamónico, 2014).

Uotila (2011) recorded *Oxybasis rubra* in most of the European countries (including Sardinia) on the basis of the *Checklist of the Italian Vascular Flora* by Conti *et al.* (2005). Also Pignatti (1982), in the first edition of *Flora d'Italia*, and Mossa *et al.* (2004) reported this species as occurring in the island. Arrigoni (2006) in his *Flora dell'Isola di Sardegna* listed it as doubtful species for the island. Iamónico (2017) reported the species as erroneously recorded in Sardinia. Both the subsequent updating to the Italian flora (Conti *et al.*, 2007), the detailed study on the aggregate *Oxybasis rubra/chenopodioides* by Iamónico (2014), and the recent new Italian Checklist (Bartolucci *et al.*, 2018; see also Portal of Flora of Italy, 2024) considered *O. rubra* as not included in the regional flora being recorded in the past as a mistake. POWO (2024) does not record *O. rubra* in Sardinia.

As part of an ongoing study on *Chenopodium s. l.* (e.g. Iamónico, 2010, 2011, 2013, 2019; Iamónico *et al.*, 2015, 2022; Mosyakin & Iamónico, 2017; Iamónico & Mosyakin, 2018, 2020; Iamónico & El Mokni, 2019), field surveys carried out during the last years in Sardinia allowed us to find some populations referable to *Oxybasis rubra*, a discover which represents a confirmation of the species in the Island. Based on the literature review, the names *Chenopodium blitoides* Lej., which is currently considered by almost all the literature con-

sulted as synonym of *Oxybasis rubra*, and *C. humile* Hook., which is currently accepted as a good taxon at variety rank of *C. rubrum* or *O. rubra* [*C. rubrum* var. *humile* (Hook.) S. Watson, or *O. rubra* var. *humilis* (Hook.) S. Mosyakin; see e.g. Clemants & Mosyakin, 2003; Mosyakin, 2013] need to be clarified, and they are also investigated in the present paper.

MATERIALS AND METHODS

The present work is based on a review of the relevant literature (e.g. Pignatti, 1982; Arrigoni, 2006; Iamónico, 2014; Portal of Flora of Italy, 2024; POWO 2024), floristic surveys, and checking and examination of material preserved at BR, CAG, FI, K, LINN, and RO (acronyms according to Thiers, 2024 [continuously updated]), and in the personal *Herbarium Giuliano Mereu* (not listed in *Index Herbariorum*). The articles cited throughout the text follow the *Shenzhen Code* (Turland *et al.*, 2018, hereafter reported as “ICN”). The description of the species is based on plants collected in Sardinia.

RESULTS

Chenopodium blitoides

Chenopodium blitoides was described by Lejeune (1811: 126) who provided a diagnosis and the provenance (“Se trouve dans le fossés des fortification de la ville de Maastricht”).

According to Stafleu & Cowan (1979: 830), Lejeune's collection is preserved at BR. Lejeune's herbarium was in fact acquired, after his death, in 1871, by the Jardin botanique de Bruxelles (now Botanic Garden Meise; herbarium BR) (see Verloove, 2017). Most of Lejeune's specimens, however, only bear a name in Lejeune's handwriting, without indication of date and/or locality. Hence, there seems to be no extant material that doubtlessly was at Lejeune's disposal when he described taxa between 1811 and 1824 (Verloove, 2017). Only one specimen of *Chenopodium blitoides* was found at BR (barcode BR1-190-092), and it bears two plants and the following two original labels: “*Blitum ru-*

brum | DC. prodr. t. 13 p. 2 p. 87 | HERB. HORT. BRUXELL. | Coll. LEJEUNE”, and “*Chenopodium* | *Blitum rubrum* var. *blitoides* | fl. fr. | DC. prodr. t. 13 p. 2 p. 87 | HERB. HORT. BRUXELL. | Coll. LEJEUNE”. Since both the dates and localities of collection are lacking, this specimen cannot be considered as part of the original material with certainty and is not eligible as lectotype (Arts. 9.3 and 9.4 of ICN). A neotypification is therefore necessary (Art. 9.8 of ICN). BR1-190-092 is here designated as the neotype of the name *Chenopodium blitoides*.

On the basis of the current concept in *Oxybasis* (e.g. Akeroyd, 1993; Clemants & Mosyakin, 2003; Iamónico, 2014, 2017), BR1-190-092 is identifiable as *O. rubra* var. *rubra* and *Chenopodium blitoides* is a heterotypic synonym.

Chenopodium humile

Hooker (1838: 127) proposed *Chenopodium humile* to describe small forms of *Chenopodium* from Saskatchewan (“Saskatchewan” is reported in the protologue), an administrative province of South Canada.

According to Stafleu & Cowan (1979: 283), Hooker’s collection is preserved at K, where we traced one specimen (barcode K000898463, on the right of the sheet), which is pinned with further two collections (barcodes K000898462 and K000898464; image of the sheet at <https://www.kew.org/herbcatimg/544064.jpg>). K000898463 is linked to the label “*Chenop. humile* | Saskatchewan | Drummond” and matches Hooker’s diagnosis. Hooker (1838) did not indicate any collector in the protologue. However, note that “Drummond” was reported just above in *Flora boreali-americana* (same and previous pages of the protologue of *C. humile*) as collector of other *Chenopodium* species, i.e. *C. calceliforme* Hook. (Saskatchewan was not reported among the localities of this species), *C. rubrum* L. (“Hab. About the Saskatchewan. Drummond”), *C. urbicum* L. (“Hab. ... Saskatchewan ... Drummond”), and *C. glaucum* L. (Saskatchewan was not reported among the localities of this species). So, we can presume that Drummond could be also the collector of *C. humile*. Despite this, since the date of collection is lacking in K000898463, we cannot be sure that the plant was an ante-1838

addition to the collection, and we prefer to consider this specimen as not part of the original material used by Hooker to describe *C. humile*. All things considered, no specimen useful for a lectotypification purpose was traced, a neotype should be designated (Art. 9.8 of ICN). K000898463 is here designated as the neotype of the name *Chenopodium humile*.

The taxon *humile* has been treated at different ranks during the time (from species to variety and form), whereas in other cases it was not recognized at all. According to Clemants & Mosyakin (2003), Hooker’s species is native in NW-America and introduced to East, while Brouillet *et al.* (2010) reported it in Canada as native in Ontario, Nova Scotia, New Brunswick, British Columbia, Saskatchewan, Alberta, and Yukon. Waiting for further investigations on this taxon, we here accept it at variety rank according to Clemants & Mosyakin (2003).

Occurrence in Sardinia of *Oxybasis rubra* var. *rubra*

Twenty populations of *Oxybasis rubra* var. *rubra* were found in three Administrative Units of Sardinia [Metropolitan City of Cagliari (localities: Colostrai and Torre Salinas, and S. Giovanni), Province of Nuoro (Cala Gonone-Dorgali, Gairo, Scogliera di Punta su Mastixi-Bari Sardo, Su Sirboni), and Province of South Sardinia (Nuraghe Murtas-Muravera)] along the western coast (Fig. 1). In these sites, the plants are grouped in small populations (less than 30 individuals per population). They thrive in diverse habitats, encompassing salt marshes, sea shores (Fig. 2A), pond banks, human-made environments such as roadsides or anthroposols formed from the accumulation of various materials, and even basaltic rocky areas (Fig. 2B), as observed at one site. As highlighted by Iamónico (2014: 290), *Oxybasis rubra* has wider ecological demands than *O. chenopodioides*. *Oxybasis rubra* occurs in both natural and synanthropic habitat, which are characterized respectively by soils humid and not, whereas *O. chenopodioides* colonizes habitats with a seasonal cycle of submersion (mainly during the winter, with rain) and emersion (during the summer and autumn) (see Iamónico, 2014: 287).



Figure 1. Distribution map of *Oxybasis rubra* var. *rubra* in Sardinia (red dots). Zoomed maps (A–D), refer to white rectangles occurring in the central map (Sardinia island).

No specimen identifiable as *Oxybasis rubra* were traced at CAG, which is the main Sardinian herbarium.

TAXONOMIC TREATMENT

Oxybasis rubra (L.) S. Fuentes, Uotila & Borsch, Willdenowia 42: 15 (2012) var. *rubra* $\equiv$ *Chenopodium rubrum* L., Sp. Pl. 1: 218 (1753) $\equiv$ *Blitum rubrum* (L.) Rchb., Fl. Germ. Excurs. 2(1): 582 (1832).

Type (designated by Uotila, 1993): Herb. Linnaeus 313.5 (lectotype LINN!, image available at <http://linnean-online.org/3079/>).

= *Chenopodium blitoides* Lej., Fl. Spa 1: 126 (1811).

Neotype (**designated here**): Belgium, Liège, Spa, s.d., A.L.S. Lejeune s.n. (BR1-190-092!). Fig. 3.

Description: annual herbaceous (therophyte), with herbaceous smell, 20–100 cm tall. Stem glabrous (slightly farinose along the inflorescence), more or less branched (branches erect, irregularly ribbed), green to red. Leaves green to dark-green, slightly shiny, petiolate (petiole 5–45 mm long), with blades green to red (especially at the apex),

slightly fleshy, ovate-rhomboidal ($2.5\text{--}6.0 \times 50\text{--}80$ mm, reduced in size towards the distal part of the plant), margin irregularly dentate (2–3 acute teeth per side), base cuneate. Flowers grouped in not fleshy glomerules; glomerules arranged in spike-like structures each subtended by one bract-like leaf; tepals five, connate only at the base, keeled at maturity (keeled only in the distal part when young), rounded at the apex, green (red in the distal part at maturity), sparsely farinose. Fruits each with one seed, discoidal (diameter 1.2–1.5 mm), slightly wrinkled or punctulate, blackish to brown.

Flowering time: February–April.

Specimina Visa Selecta: Italia, Puglia: Taranto, Lungomare Vittorio Emanuele III, muri e bordi di aree pedonali, 7 m, 14.IV.2013, leg. *T. Dura*, det. *D. Iamónico & T. Dura* (FI). Sardegna: Cagliari, Muravera, stagno di Colostrai, sponda orientale dello stagno con prevalente prateria di *Salicornia fruticosa* (L.) L., 39.353460° N, 9.593219° E (WGS84), 1 m a.s.l., 14.III.2015, leg. *G. Mereu*, det. *G. Mereu & D. Iamónico* (RO, Herb. Mereu); Cagliari, Muravera, spiaggia di S. Giovanni, parte alta della spiaggia e area sabbiosa limitrofa, 39.396119° N, 9.611084° E (WGS84), 2 m a.s.l., 14.III.2015, leg. *G. Mereu*, det. *G. Mereu & D. Iamónico* (RO); Ogliastro, Bari Sardo, loc. Su Mastixi, scogliera balsatica, 39.853782° N, 9.695387° E (WGS84), 3



Figure 2. *Oxybasis rubra* var. *rubra*: (A), shores (two individuals); (B), basaltic rocky habitat (one population) [photos by G. Mereu].



Figure 3. Neotype of the name *Chenopodium blitoides* Lej. (BR1-190-092!).

m a.s.l., 02.V.2015, leg. *G. Mereu*, det. *G. Mereu* & *D. Iamónico* (RO); Nuoro, Dorgali, Porto di Cala Gonone, terrapieno del molo settentrionale, 40.283899°N, 9.639155°E (WGS84), 3 m a.s.l., 23.V.2015, leg. *G. Mereu*, det. *G. Mereu* & *D. Iamónico* (Herb. Mereu); Cagliari, Muravera, Nuraghe Murtas, bordo di strada sterrata presso stagno salmastro, 39.406794° N, 9.603177° E (WGS84), 3 m a.s.l., 10.I.2016, leg. *G. Mereu*, det. *G. Mereu* & *D. Iamónico* (Herb. Mereu); Nuoro, Ogliastro, Gairo, Spiaggia di Coccoorocci, bordo di macchia mediterranea retrodunale, 39.728981° N, 9.674510° E (WGS84), 5 m a.s.l., 15.IV.2018, leg. *G. Mereu*, det. *G. Mereu* & *D. Iamónico* (Herb. Mereu); Cagliari, Muravera, Spiaggia di Colostrai, bordo di strada sterrata presso depressione retrodunale salsa, 39.361214° N, 9.597575° E (WGS84), 3 m a.s.l., 28.IV.2018, leg. *G. Mereu*, det. *G. Mereu* & *D. Iamónico* (Herb. Mereu).

***Oxybasis rubra* (L.) S. Fuentes, Uotila & Borsch, Willdenowia 42: 15 (2012) var. *humilis* (Hook.) S. Mosyakin, Phytoneuron 56: 1–8 (2013) ≡ *Chenopodium humile* Hook., Fl. Bor.-Amer. 2: 127 (1838).**

Neotype (**designated here**): Canada, Saskatchewan, *s.d.*, *T. Drummond s.n.* K000898463! [plant on the right of the sheet], image available at <https://www.kew.org/herbcatimg/544064.jpg>.

ACKNOWLEDGEMENTS

Thanks are due to Directors and Curators of all quoted Herbaria for their support during our visits or loan of specimens/photographs. Special thanks to F. Verloove (Herbarium BR) for the permission to reproduce the image of the neotype of *Chenopodium blitoides* and to the anonymous reviewers for the useful comments and suggestions which improved the manuscript. Project funded under the National Recovery and Resilience Plan (NRRP), Mission 4 Component 2 Investment 1.4—Call for tender no. 3138 of December 16, 2021, rectified by Decree n.3175 of December 18, 2021, of Italian Ministry of University, and Research funded by the European Union—NextGenerationEU. Project code CN_00000033, Concession Decree No. 1034 of June 17, 2022, adopted by the Italian Ministry of University and Research, CUP B83C22002950007, Project title “National Biodiversity Future Center – NBFC”.

AUTHORSHIP CONTRIBUTION STATEMENT

Duilio Iamónico: Conceptualization, Data curation, Investigation, Methodology, Writing – original draft, Writing – review & editing. **Giuliano Mereu:** Investigation, Writing – review & editing.

REFERENCES

- Akeroyd, J. R. 1993. *Chenopodium* L. In: Tutin, T. G., Heywood, W. H., Burges, N. A., Moore, D. M., Valentine, D. H., Walters, S. M., Webb, D. A. (Eds), *Flora Europaea* 1. Cambridge University Press, Cambridge: 111–114.
- APGIII [The Angiosperm Phylogeny Group] 2009. An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG III. *Botanical Journal of the Linnean Society* 161: 105–121. <https://doi.org/10.1111/j.1095-8339.2009.00996.x>
- APGIV [The Angiosperm Phylogeny Group] 2016. An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG IV. *Botanical Journal of the Linnean Society*: 1–20. <https://doi.org/10.1111/boj.12385>
- Arrigoni, P. V. 2006. *Flora dell'isola di Sardegna* 1. Carlo Delfino Editore, Sassari.
- Bartolucci, F., Peruzzi, L., Galasso, G., Albano, A., Alessandrini, A., Arengi, N. M. G., Astuti, G., Bacchetta, G., Balzelli, S., Banfi, E., Barberis, G., Bernardo, L., Bouvet, D., Bovio, M., Cecchi, L., Di Pietro, R., Domina, G., Fascetti, S., Fenu, G., Festi, F., Foggi, B., Gallo, L., Gottschlich, G., Gubellini, L., Iamónico, D., Iberite, M., Jiménez-Mejías, P., Lattanzi, E., Marchetti, D., Martinetto, E., Masin, R. R., Medagli, P., Passalacqua, N. G., Peccenini, S., Pennesi, R., Pierini, B., Poldini, L., Prosser, F., Raimondo, F. M., Roma-Marzio, F., Rosati, L., Santangelo, A., Scoppola, A., Scortegagna, S., Selvaggi, A., Selvi, F., Soldano, A., Stinca, A., Wagensommer, R. P. & Wilhalm, T. 2018. An updated checklist of the vascular flora native to Italy. *Plant Biosystems* 152(2): 179–303. <https://doi.org/10.1080/11263504.2017.1419996>
- Brouillet, L., Coursol, F., Meades, S. J., Favreau, M., Anions, M., Bélisle, P. & Desmet, P. 2010. *Oxybasis rubra* var. *humilis* (Hooker) Mosyakin. In: *VASCAN - the Database of Vascular Plants of Canada*. Retrieved February 26, 2020, from <http://data.canadensys.net/vascan/taxon/27673>
- Clemants, S. E. & Mosyakin, S. L. 2003. *Chenopodium* L. In: *Flora of North America Editorial Committee* (Eds.), *Flora of North America North of Mexico* 4. Oxford University Press, New York & Oxford: 175–299.
- Conti, F., Abbate, G., Alessandrini, A. & Blasi, C. (Eds.) 2005. *An Annotated Checklist of the Italian Vascular Flora*. Palombi Editori, Roma.
- 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., Vangale, 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: 5–74.

- Fuentes-Bazan, S., Uotila, P. & Borsch, T. 2012. A novel phylogeny-based generic classification for *Chenopodium* sensu lato, and a tribal rearrangement of Chenopodioideae (Chenopodiaceae). *Willdenowia* 42: 5–24. <https://doi.org/10.3372/wi.42.42101>
- Hernández-Ledesma, P., Berendsohn, W. G., Borsch, T., von Mering, S., Akhani, H., Arias, S., Castañeda-Noa, I., Eggli, U., Eriksson, R., Flores-Olvera, H., Fuentes-Bazán, S., Kaderit, G., Klak, C., Korotkova, N., Nyffeler, R., Ocampo, G., Ochoterena, H., Oxelman, B., Rabeler, R. K., Sanchez, A., Schlumpberger, B. O. & Uotila, P. 2015. A taxonomic backbone for the global synthesis of species diversity in the angiosperm order Caryophyllales. *Willdenowia* 45: 281–383. <http://dx.doi.org/10.3372/wi.45.45301>
- Hooker, W. J. 1838. *Flora boreali-americana, or, the botany of the northern parts of British America* 2. Henry G. Bohn, London. <https://doi.org/10.5962/bhl.title.691>
- Iamónico, D. 2010. Confirmation of the occurrence of *Chenopodium strictum* subsp. *strictum* (Amaranthaceae s. l.) in Italy. *Phyton (Horn Austria)* 49(2): 235–240.
- Iamónico, D. 2011. *Dysphania anthelmintica* (Amaranthaceae), new to the non-native flora of Italy, and taxonomic considerations on the related species. *Hacquetia* 10(1): 41–48. <https://doi.org/10.2478/v10028-011-0002-x>
- Iamónico, D. 2013. *Chenopodium* sensu lato (Chenopodiaceae, Chenopodioideae) nella flora vascolare italiana: chiave analitica dei generi. *Informatore Botanico Italiano* 45(1): 83–88.
- Iamónico, D. 2014. Taxonomical morphological ecological and chorological notes on *Oxybasis chenopodioides* and *O. rubra* (Chenopodiaceae) in Italy. *Hacquetia* 13(2): 297–302. <https://doi.org/10.2478/hacq-2014-0005>
- Iamónico, D. 2017. *Oxybasis* Kar. & Kir. In: Pignatti, S. (Ed.), *Flora d'Italia* 2. Edagricole, Bologna: 247–249.
- Iamónico, D. 2019. Remarks on the nomenclature of *Betoideae* (Chenopodiaceae/Amaranthaceae sensu APGIV). *Phytotaxa* 400(3): 145–164. <https://doi.org/10.11646/phytotaxa.400.3>
- Iamónico, D. & El Mokni, R. 2019. On *Atriplex canescens* (Chenopodiaceae s. str./Amaranthaceae s. l.) in Tunisia: nomenclatural and morphological notes on its infraspecific variability. *Hacquetia* 18(1): 119–127. <https://doi.org/10.2478/hacq-2018-0008>
- Iamónico, D. & Mosyakin, S. L. 2018. Studies on *Chenopodium album* s. l. (Chenopodiaceae / Amaranthaceae s. l.): *Chenopodium pedunculare*. *Annali di Botanica (Roma)* 8: 67–74. <https://doi.org/10.4462/annbotrm-14240>
- Iamónico, D. & Mosyakin, S. L. 2020. Lectotypification of names associated with *Chenopodium hircinum* (Chenopodiaceae / Amaranthaceae sensu APG): *C. bonariense* Tenore and two varieties described by Aellen. *Phytotaxa* 443(1): 116–120. <https://doi.org/10.11646/phytotaxa.443.1.11>
- Iamónico, D., Sciuto K., Sfriso A., Argenti C., Marion A. F. 2022. *Blitum venetum* (Chenopodiaceae), a new species from the north-eastern Dolomites (Italian Eastern Alps). *Acta Botanica Croatica* 81(2): 121–128. <https://doi.org/10.37427/botcro-2022-009>
- Iamónico, D., Sukhorukov, A. P. & Reveal, J. L. 2015. (2360) Proposal to reject the name *Chenopodium caudatum* (Amaranthaceae / Chenopodiaceae). *Taxon* 64(3): 638–639. <https://doi.org/10.12705/643.18>
- Lejeune, A. L. S. 1811. *Flore des environs de Spa, ou, distribution selon le système de Linnaeus, des plantes qui croissent spontanément dans le département de l'Ourte et dans les départements circonvoisins, pour servir de suite à la Flore du Nord de la France de Mr. Roucel*. Duvivier, Liège.
- Mered'a, S. P. jun. 2016. *Oxybasis* Kar. & Kir. In: Goliašová, K. & Michalková, E. (Eds.), *Flóra Slovenska* 6(4): 231–253, 723.
- Mossa, L., Guarino, R., Fogu, M. C. 2004. La componente terofitica della flora della Sardegna. Forme di crescita, ecologia, corologia e sinsistematica. *Rendiconti del Seminario della Facoltà di Scienze dell'Università di Cagliari* 73(2): 1–209.
- Mosyakin, S. L. 2013. New nomenclatural combinations in *Blitum*, *Oxybasis*, *Chenopodiastrium*, and *Lipandra* (Chenopodiaceae). *Phytoneuron* 2013–56: 1–8.
- Mosyakin, S. L. 2018. New combinations for three taxa of the *Oxybasis glauca* aggregate (Chenopodiaceae) from Australasia, East Asia, and South America. *Phytotaxa* 250(3): 259–273. <https://doi.org/10.11646/phytotaxa.350.3.5>
- Mosyakin, S. L. & Iamónico, D. 2017. Nomenclatural changes in *Chenopodium* (incl. *Rhagodia*) (Chenopodiaceae) with considerations on relationships of some Australian taxa and their possible Eurasian relatives. *Nuytsia* 28: 255–271. <https://doi.org/10.58828/nuy00843>
- Pignatti, S. 1982. *Flora d'Italia* 1. Edagricole, Bologna.
- Portal of Flora of Italy 2024. *Oxybasis rubra* (L.) S. Fuentes, Uotila & Borsch. Retrieved on August 12, 2024, from https://dryades.units.it/FVG/index.php?procedure=taxon_page&id=459&num=1923
- POWO [Plants of the World Online] 2024. *Oxybasis rubra* (L.) Fuentes, Uotila & Borsch. Retrieved on August 12, 2024, from <https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:77121013-1>
- Stafleu, F. A. & Cowan, R. S. 1979. *Taxonomic Literature. Second edition II: H-Le*. The Hague, Utrecht.
- Sukhorukov, A. P. 2014. Карпология семейства Chenopodiaceae в связи с проблемами филогении, систематики и диагностики его представителей [The carpology of the family Chenopodiaceae with reference to the phylogeny, systematics and diagnostics of its representatives]. Grif & K, Tula [In Russian].
- Sukhorukov, A. P., Nilova, M. V., Erst, A. S. & Krinitsyna, A. A. 2015. Exact delimitation of the morphologically similar but phylogenetically distant genera *Blitum* and *Oxybasis* (Chenopodiaceae–Amaranthaceae): a case study of several enigmatic taxa. In: *Caryophyllales 2015 – Conference Programme and Abstracts*. (Berlin, 14–19 September 2015). Botanic Garden and Botanical Museum Berlin-Dahlem & Freie Universität Berlin, Berlin: 45.
- Sukhorukov, A. P., Uotila, P., Zhang, H.-X., Speranskaya, A. S. & Krinitsyna, A. A. 2013. New combinations in Asiatic *Oxybasis* (Amaranthaceae s. l.): evidence from morphological, carpological and molecular data. *Phytotaxa* 144(1): 1–12. <https://doi.org/10.11646/phytotaxa.144.1.1>
- Thiers, B. 2024 [continuously updated]. *Index Herbariorum: A global directory of public herbaria and associated staff*. New York Botanical Garden's Virtual Herbarium. Retrieved on August 12, 2024, from <http://sweetgum.nybg.org/ih/>.
- Turland, N. J., Wiersema, J. H., Barrie, F. R., Greuter, W., Hawksworth, D. L., Herendeen, P. S., Knapp, S., Kusber, W.-H., Li, D.-Z., Marhold, K., May, T. W., McNeill, J., Monro, A. M., Prado, J., Price, M. J. & Smith, G. F. (Eds.) 2018. *International Code of Nomenclature for algae, fungi, and plants (Shenzhen Code) adopted by the Nineteenth International Botanical Congress Shenzhen, China* (Regnum Vegetabile, 159). Koeltz Botanical Books, Glashütten. <https://doi.org/10.12705/Code.2018>

- Uotila, P. 1993. Taxonomic and nomenclatural notes on *Chenopodium* in the Flora iranica area. *Annales Botanici Fennici* 30: 189–194.
- Uotila, P. 2011. *Oxybasis rubra* (L.) S. Fuentes, Uotila & Borsch. In: *Euro+Med PlantBase - the information resource for Euro-Mediterranean plant diversity*. Botanic Garden and Botanical Museum Berlin-Dahlem, Berlin. Retrieved August 12, 2024, from http://euromed.luomus.fi/euromed_map.php?taxon=549009&size=medium
- Verloove, F. 2013. A new combination in *Oxybasis* (Amaranthaceae). *New Journal of Botany* 3(1): 59–60. <https://doi.org/10.1179/2042349712Y.0000000015>
- Verloove, F. 2017. Typification and identity of species of *Veronica* subgenus *Pseudolysimachium* (Plantaginaceae) described from Belgium by A. L. S. Lejeune. *New Phytotaxa* 329(3): 296–298. <https://doi.org/10.11646/phytotaxa.329.3.14>