



PHYTOTAXA

168

An inventory of vascular plants endemic to Italy

LORENZO PERUZZI^{1*}, FABIO CONTI² & FABRIZIO BARTOLUCCI²

¹*Dipartimento di Biologia, Unità di Botanica, Università di Pisa, Via Luca Ghini 13, 56126, Pisa, Italy;*
e-mail lorenzo.peruzzi@unipi.it

²*Scuola di Scienze Ambientali, Università di Camerino – Centro Ricerche Floristiche dell'Appennino, Parco Nazionale del Gran Sasso e Monti della Laga, San Colombo, 67021 Barisciano (L'Aquila);*
e-mail fabio.conti@unicam.it; fabrizio.bartolucci@gmail.com

**author for correspondence*



Magnolia Press
Auckland, New Zealand

Peruzzi *et al.*

An inventory of vascular plants endemic to Italy

(*Phytotaxa* 168)

75 pp.; 30 cm.

16 May 2014

ISBN 978-1-77557-378-4 (paperback)

ISBN 978-1-77557-379-1 (Online edition)

FIRST PUBLISHED IN 2014 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: magnolia@mapress.com

<http://www.mapress.com/phytotaxa/>

© 2014 Magnolia Press

All rights reserved.

No part of this publication may be reproduced, stored, transmitted or disseminated, in any form, or by any means, without prior written permission from the publisher, to whom all requests to reproduce copyright material should be directed in writing.

This authorization does not extend to any other kind of copying, by any means, in any form, and for any purpose other than private research use.

ISSN 1179-3155 (Print edition)

ISSN 1179-3163 (Online edition)

Table of contents

Abstract	3
Introduction	3
Material and Methods	3
Results	5
Discussion	8
Checklist of endemic Italian vascular flora	9
Acknowledgements	72
References	72

Abstract

For the purpose of the present study we considered as Italian endemics those specific and subspecific taxa occurring in Italy that are not found elsewhere with the exception of Corsica (France) and Malta. This study presents an updated list of the endemic taxa in the Italian flora, including their geographical distribution at regional level. Italy is characterized by 1371 endemic species and subspecies (18.9% of the total vascular flora): three taxa belong to Lycopodiidae, one to Polypodiidae, two to Pinidae and 1365 to Magnoliidae (three paleoherbs, 221 monocots and 1144 eudicots). The endemic flora belongs to 29 orders, 67 families and 304 genera. Sicily, Sardinia, Calabria and Abruzzo are the four regions richest in endemics. About 58% of endemics are confined to a single administrative region. The most represented orders, families and genera are: Asterales, Caryophyllales and Asparagales, Asteraceae, Plumbaginaceae and Caryophyllaceae, *Limonium*, *Centaurea* and *Hieracium*, respectively. The phytogeographic isolation of Sardinia and Sicily and the separation of peninsular Italy from Northern Italy is confirmed. The relative isolation of Puglia with respect the remaining southern Italian peninsular regions is also confirmed. Alpine region endemics (from northern Italy) are underrepresented.

Key words: floristics, phytogeography, systematics, taxonomy

Introduction

The term endemic is used to designate a species restricted to a definite area (Siljak-Yakovlev & Peruzzi 2012). Documenting endemic floras is important for phytogeographic and evolutionary studies and for setting conservation priorities (Hinz 1989, Garbari 1990, Ungricht 2004, Ferreira & Boldrini 2011, Bacchetta *et al.* 2012a).

According to the most recent checklist of the Italian vascular flora (Conti *et al.* 2005, 2007), 1024 species and subspecies are endemic to Italy. However, many taxa (227) have been described as new to science in the meantime (seven of them in Phytotaxa, see Bacchetta *et al.* 2012a-b, Melai *et al.* 2012, Brullo *et al.* 2013a-b, Fenaroli *et al.* 2013, Minissale *et al.* 2013), whilst others have been recognized following taxonomic revisions and a significant amount of further floristics knowledge has accumulated since 2007. Preliminary to a new edition of the checklist of the Italian vascular flora (F. Conti and collaborators, in prep.) we undertook an update of the inventory of vascular plants endemic to Italy. This also served as a basis for a chromosome number survey of Italian endemic flora (Bedini *et al.* 2012) and the Italian Loci Classici Census project (Domina *et al.* 2012a). The latter aimed at improving the systematic knowledge of vascular plants described from Italy. Furthermore, updating knowledge on Italian endemics is important considering that the Italian peninsula is located at the centre of the Mediterranean Basin, one of the 25 world biodiversity hotspots with an exceptional loss of habitats Myers *et al.* (2000). Therefore, in the present paper we aim to: (i) produce an updated list of Italian endemics, including their regional distribution; (ii) carry out a phytogeographical analysis of Italian endemics, on a regional basis.

Material and Methods

For the purpose of the present study Italian endemics are defined as the specific and subspecific taxa occurring only in Italy or only in Italy and in Corsica (France) or only in Italy and in Malta. We included the taxa from Corsica and Malta in the light of the strong biogeographical links connecting Sardinia and Tuscany to Corsica, and

- Pimpinella gussonei* (C.Presl) Bertol.
SIC
- Ptychotis sardoia* Pignatti & Metlesics
SAR
- Seseli bocconi* Guss.
SIC
- Seseli polyphyllum* Ten.
C Italian peninsula (LAZ); S Italian peninsula (CAM)
- Seseli praecox* (Gamisans) Gamisans
SAR (Corsica)
- Seseli tortuosum* L. subsp. *maritimum* (Guss.) C.Brullo, Brullo, Giusso & Sciandrello
S Italian peninsula (PUG doubtful, CAL); SIC; SAR
- Siculosciadium nebrodense* (Guss.) C.Brullo, Brullo, S.R.Downie & Giusso
SIC. The monotypic genus *Siculosciadium* is endemic to Sicily (see also Brullo *et al.* 2013).
- Thapsia garganica* L. subsp. *messanensis* (Guss.) Brullo, Guglielmo, Pasta, Pavone & Salmeri
SIC
- Thapsia pelagica* Brullo, Guglielmo, Pasta, Pavone & Salmeri
SIC
- Torilis nemoralis* (Brullo) Brullo & Giusso
SIC; SAR
- Visnaga crinita* (Guss.) Giardina & Raimondo
S Italian peninsula (CAL doubtful); SIC

Acknowledgements

We gratefully acknowledge the regional and/or taxonomical advisors who provided data for the forthcoming new checklist of the Italian vascular flora: Filippo Prosser and Thomas Wilhalm (Trentino-Alto Adige), Silvio Scortegagna and Rizzieri Masin (Veneto), Simonetta Peccenini and Giuseppina Barberis (Liguria), Alessandro Alessandrini (Emilia-Romagna), Annalisa Santangelo (Campania), Robert Philip Wagensommer, Pietro Medagli and Antonella Albano (Puglia), Giannantonio Domina and Francesco Maria Raimondo (Sicily), Gianluigi Bacchetta (Sardinia), Günther Gottschlich (*Hieracium*, *Pilosella*). Finally, kind thanks are due Gabriele Galasso for nomenclatural advices and to Giovanni Gestri and Brunello Pierini, for the pictures of *Aquilegia dumeticola* and *Scabiosa uniseta*.

References

- Abbate, G., Iberite, M., Bonacquisti, S., Giovi, E., Iamónico, D. & Scassellati, E. (2012) Taxonomical and chorological diversity of native woody flora of Italy at regional scale. *Boccone* 24: 169–175.
- Aedo, C., Medina, L. & Fernández-Albert, M. (2013) Species richness and endemism in the Spanish vascular flora. *Nordic Journal of Botany* 31: 478–488.
- Aeschimann, D., Rasolofo, N. & Theurillat, J.-P. (2011) Analysis of the flora of the Alps. 1: historical account and biodiversity. *Candollea* 66: 27–55.
- APGIII (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.
- Bacchetta, G., Brullo, S., Congiu, A., Fenu, G., Garrido, J.L. & Mattana E. (2012a) A new species of *Aquilegia* (Ranunculaceae) from Sardinia (Italy). *Phytotaxa* 56: 59–64.
- Bacchetta, G., Brullo, S., D'Emerico, S., Pontecorvo, C. & Salmeri C. (2012b) *Charybdis glaucophylla* (Asparagaceae), a new species from Sardinia. *Phytotaxa* 69: 16–26.
- Bacchetta, G., Farris, E. & Pontecorvo, C. (2012c) A new method to set conservation priorities in biodiversity hotspots. *Plant Biosystems* 69: 638–648.

- Bacchetta, G., Fenu, G. & Mattana, E. (2012d) A checklist of the exclusive vascular flora of Sardinia with priority rankings for conservation. *Anales del Jardín Botánico de Madrid* 69: 81–89.
- Bacchetta, G. & Pontecorvo, C. (2005) Contribution to the knowledge of the endemic vascular flora of Igesiente (South West Sardinia, Italy). *Candollea* 60: 481–501.
- Bedini, G., Garbari, F. & Peruzzi, L. (2012) Chromosome number variation of the Italian endemic vascular flora. State-of-the-art, gaps in knowledge and evidence for an exponential relationship among even ploidy levels. *Comparative Cytogenetics* 6: 192–211.
<http://dx.doi.org/10.3897/compcytogen.v6i2.3107>
- Bernardo, L., Passalacqua, N.G. & Peruzzi L. (2010) Notulae alla checklist della flora italiana, 10: 1736–1748. *Informatore Botanico Italiano* 42: 529–532.
- Biondi, M. (2006) Il calcolo della somiglianza con dati binari nelle analisi biogeografiche. *Biogeographia n.s.* 27: 227–254.
- Blasi, C., Filibeck, G., Burrascano, S., Copiz, R., Di Pietro, R., Ercole, S., Lattanzi, E., Rosati, L. & Tilia, A. (2007) Primi risultati per una nuova regionalizzazione fitogeografica del territorio italiano. *Biogeographia s.n.* 28: 9–23.
- Bonanno, G. (2013) Adaptive management as a tool to improve the conservation of endemic floras: the case of Sicily, Malta and their satellite islands. *Biodiversity and Conservation* 22: 1317–1354.
- Brullo, C., Brullo, S., Downie, S.R., Danderson, C.A. & Giusso del Galdo, G. (2013c) *Siculosciadium*, a new monotypic genus of Apiaceae from Sicily. *Annals of Missouri Botanical Garden* 99: 1–18.
<http://dx.doi.org/10.3417/2011009>
- Brullo, C., Brullo, S., Giusso del Galdo, G. & Ilardi V. (2013a) *Brassica trichocarpa* (Brassicaceae), a new species from Sicily. *Phytotaxa* 122: 45–60.
- Brullo, C., Brullo, S. & Giusso del Galdo, G. (2013b) *Solenopsis mothiana* (Campanulaceae), a new species from Sicily. *Phytotaxa* 145: 15–26.
<http://dx.doi.org/10.11646/phytotaxa.145.1.2>
- Brullo, C., Minissale, P., Sciandrello, S. & Spampinato G. (2011) Phytogeographic survey on the endemic vascular flora of the Hyblaean territory (SE Sicily, Italy). *Acta Botanica Gallica* 158: 617–631.
<http://dx.doi.org/10.1080/12538078.2011.10516299>
- Cacciato, A. 1966. Il genere *Amaranthus* a Roma e nel Lazio. *Annali di Botanica (Roma)* 28: 613–630.
- Candolle de, A.P. (1838) *Prodromus Systematis Naturali Regni Vegetabilis* 6. Treuttel & Würtz, Paris, 687 pp.
- Caruel, T. (1894) *Epitome Florae Europae Terrarumque Affinium* 2. T. Caruel, Firenze, pp. 113–288.
- Chase, M.W. & Reveal J.L. (2009) A phylogenetic classification of the land plants to accompany APG III. *Botanical Journal of the Linnean Society* 161: 122–127.
- Chaw, S.-M., Parkinson, C.L., Cheng, Y., Vincent, T.M. & Palmer, J.D. (2000) Seed plant phylogeny inferred from all three plant genomes: monophyly of extant gymnosperms and origin of Gnetales from conifers. *Proceedings of National Academy of Sciences, USA* 97: 4086–4091.
<http://dx.doi.org/10.1073/pnas.97.8.4086>
- Chiovenda, E. (1892) Sopra alcune piante rare o critiche della flora romana. *Bullettino della Società Botanica Italiana* 1892: 295–303.
- Christenhusz, M.J.M., Reveal, J.L., Farjon, A., Gardner, M.F., Mill, R.R. & Chase, M.W. (2011a) A new classification and linear sequence of extant gymnosperms. *Phytotaxa* 19: 55–70.
- Christenhusz, M.J.M., Zhang, X.-C. & Schneider, H. (2011b) A linear sequence of extant families and genera of lycophytes and ferns. *Phytotaxa* 19: 7–54.
- Colla, L.A. (1830) *Hortus Ripulensis, Appendice 4* [reprint]. Regio Typographaeo, Torino, 50 pp.
- Conti, F., Abbate, G., Alessandrini, A. & Blasi, C. (eds.) (2005) *An annotated checklist of the Italian vascular flora*. Palombi Editori, Roma, 428 pp.
- Conti, F., Alessandrini, A., Bacchetta, G., Banfi, E., Barberis, G., Bartolucci, F., Bernardo, L., Bonaquisti, S., Bouvet, D., Bovio, M., Brusa, G., Del Guacchio, E., Foggi, B., Frattini, S., Galasso, G., Gallo, L., Gangale, C., Gottschlich, G., Grunanger, P., Gubellini, L., Iiriti, 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.
- De Castro, O., Sepe, F., Di Maio, A., Cennamo, P., De Luca, P., Gianguzzi, L. & Menale B. (2013) Genetic structure in the palaeoendemic and endangered *Petagna gussonei* (Spreng.) Rauschert (Saniculoideae, Apiaceae) and implications for its conservation. *Plant Systematics and Evolution* 299: 209–223.
<http://dx.doi.org/10.1007/s00606-012-0716-3>
- Domina, G., Giusso Del Galdo, G., Gargano, D., Labra, M., Peccenini, S., Peruzzi, L. & Raimondo F.M. (2012a) The Italian Loci Classici Census. *Taxon* 61: 1351–1353.
- Domina, G., Marino, P., Spadaro, V. & Raimondo, F.M. (2012b) Vascular flora evolution in the major Mediterranean islands. *Biodiversity Journal* 3: 337–342.
- Ernandes, P., Beccarisi, L. & Zuccarello, V. (2010) A new species of *Isoëtes* (Isoëtaceae, Pteridophyta) for the Mediterranean. *Plant Biosystems* 144: 805–813.
- Ernandes, P. & Marchiori, S. (2012) A comparative study of two endemic *Isoëtes* species from South Italy. *ISRN Botany*, Article ID 127250, 7 pages.

- <http://dx.doi.org/10.5402/2012/127250>.
- Euro+Med (2006 onwards) Euro+Med Plantbase - the information resource for Euro-Mediterranean plant diversity. Available at: <http://ww2.bgbm.org/EuroPlusMed/> (accessed 15 March 2013).
- Fenaroli, F., Pistarino, A., Peruzzi, L. & Cellinese, N. (2013) *Campanula martinii* (Campanulaceae), a new species from northern Italy. *Phytotaxa* 111: 27–38.
<http://dx.doi.org/10.11646/phytotaxa.111.1.2>
- Fenu, G., Mattana, E., Congiu, A. & Bacchetta, G. (2010) The endemic vascular flora of Supramontes (Sardinia), a priority plant conservation area. *Candollea* 65: 347–358.
- Ferreira, P.M.A. & Boldrini, I.I. (2011) Potential reflection on distinct ecological units in plant endemism categories. *Conservation Biology* 25: 672–679.
<http://dx.doi.org/10.1111/j.1523-1739.2011.01675.x>
- Fiori, A. & Béguinot, A. (1910) Flora Italica Exsiccata. *Nuovo Giornale Botanico Italiano, nuova serie* 17: 565–666.
- Fiori, A. & Paoletti, G. (1898) *Flora Analitica d'Italia* 1(2). Tipografia del Seminario, Padova, pp. 257–607.
- Galbany-Casals, M., Saez, L. & Benedi, C. (2004) Taxonomy of *Castroviejoa*, a new genus of Gnaphalieae (Asteraceae), endemic to the Mediterranean Islands Corsica and Sardinia. *Australian Systematic Botany* 17: 581–591.
- Gallo, L. (2012) *Sempervivum × luisae* (Crassulaceae) Hybr. Nov., endemico dell'Italia centrale. *Annali del Museo Civico di Rovereto, Sezione Archeologia, Storia, Scienze Naturali* 27 (2011): 287–296.
- Garbari, F. (1990) L'endemismo vegetale: genesi, tipi e significato biogeografico. *Studi Trentini di Scienze Naturali* 66 (1989): 113–120.
- Gussone G. (1844) *Florae siculae synopsis exhibens plantas vasculares in Sicilia insulisque adjacentibus huc usque detectas secundum systema linneanum depositas* 2(2). Tramater, Napoli. pp. 527–920.
<http://dx.doi.org/10.5962/bhl.title.50455>
- Haston, E., Richardson, J.E., Stevens, P.E., Chase, M.W. & Harris, D.J. (2009) The Linear Angiosperm Phylogeny Group (LAPG) III: a linear sequence of the families in APG III. *Botanical Journal of the Linnean Society* 161: 128–131.
- Hinz, P.A. (1989) L'endémisme: I. Concepts généraux. *Saussurea* 20: 145–168.
- Iamonico, D. (2012a) *Amaranthus powellii* subsp. *cacciatoi* comb. et stat. nov. (Amaranthaceae). *Nordic Journal of Botany* 30: 12–16.
<http://dx.doi.org/10.1111/j.1756-1051.2011.01080.x>
- Iamonico D. (2012b) Studies on the genus *Atriplex* L. (Amaranthaceae) in Italy. II. Lectotypification of *Atriplex elongata* Guss. (Amaranthaceae). *Candollea* 67: 181–185.
- Iamonico, D. (2013a) *Amaranthus cacciatoi* (Aellen ex Cacciato) Iamonico, comb. & stat. nov. In: von Raab-Straube, E. & Raus, T., Euro+Med Checklist Notulae, 2. *Willdenowia* 43: 239–249.
- Iamonico, D. (2013b) Taxonomical and chorological study on the Central Mediterranean Basin endemic *Arenaria bertolonii* Fiori & Paol. (Caryophyllaceae). *Plant Biosystems* 147: 923–930.
- Iamonico, D., Forbicioni, L. & Frangini G. (2011) A new hybrid in the genus *Ophrys* L. (Orchidaceae) from Elba Island (Central Italy). *Annales Botanici Fennici* 48: 435–438.
<http://dx.doi.org/10.5735/085.048.0508>
- Iamonico, D. & Kadereit, G. (2012) Typification of the Name *Kochia saxicola* (Chenopodiaceae). *Novon* 22: 418–421.
- IPNI, 2013. *The International Plant Names Index*. Available at: <http://www.ipni.org> (accessed 15 March 2013).
- Jordan, C.T.A. (1861) Diagnoses d'espèces nouvelles. *Annales de la Société Linnéenne de Lyon*, ser. 2, 7: 373–518.
- Kadereit, G. & Freitag, H. (2011) Molecular phylogeny of Camphorosmeae (Camphorosmoideae, Chenopodiaceae): implications for biogeography, evolution of C₄-photosynthesis and taxonomy. *Taxon* 60: 51–78.
- Linnaeus, C. (1753) *Species Plantarum*. L. Salvius, Stockholm, 1200 pp.
- Linnaeus, C. (1763) *Species Plantarum ed. 2*, 2. L.Salvius, Stockholm, pp. 785–1684.
- Melai, M., Marchetti, D., Bernardello, R. & Peruzzi L. (2012) A new diploid species of *Leucanthemum* (Asteraceae, Anthemideae) from Liguria (northwestern Italy). *Phytotaxa* 66: 27–37.
- Miller, P. (1754) *The Gardener's Dictionary ed. 4*. John and James Rivington, London, 1582 pp.
- Minissale, P., Brullo, C., Brullo, S., Giusso del Galdo, G. & Sciandrello, S. (2013) *Bituminaria basaltica* (Fabaceae), a new species from Italy. *Phytotaxa* 98: 1–15.
<http://dx.doi.org/10.11646/phytotaxa.98.1.1>
- Myers, N., Mittermeier, R.A., Mittermeier, C.G., da Fonseca G.A.B. & Kent, J. 2000. Biodiversity hotspots for conservation priorities. *Nature* 403: 853–858.
- Özhatay, N., Koçyiğit, M., Yüzbaşıoğlu, S. & Gürdal, B. (2013) Mediterranean flora and its conservation in Turkey: with special reference to Monocot geophytes. *Flora Mediterranea* 23: 195–208.
- Peruzzi, L., Bedini, G. & Andreucci, A. (2012) Homoploid hybrid speciation in *Doronicum* L. (Asteraceae)? Morphological, karyological and molecular evidences. *Plant Biosystems* 146: 867–877.
- Peruzzi, L. & Caparelli, K.F. (2007) *Gagea peduncularis* (J.Presl & C.Presl) Pascher (Liliaceae) new for the Italian flora. *Webbia* 62: 261–268.
<http://dx.doi.org/10.1080/00837792.2007.10670827>
- Peruzzi, L. & Bernard L. (2011) Notulae alla Checklist della flora vascolare italiana, 12: 1855. *Informatore Botanico Italiano* 43: 364.

- Peruzzi, L., Carta, A. & Bedini G. (2012) La flora vascolare endemica di Toscana ed aree contermini: stato delle conoscenze floristiche, biosistematiche, ecologiche e conservazionistiche. *Codice Armonico 2012*: 138–147.
- Petrova, A. & Vladimirov, V. (2010) Balkan endemics in the Bulgarian flora. *Phytologia Balcanica* 16: 293–311.
- Pignatti, S. (1983) Note sulla flora critica d'Italia. VII. Supplemento. *Giornale Botanico Italiano* 116 (1982): 93–95.
- Pryer, K.M., Schneider, H., Smith, A.R., Cranfill, R., Wolf, P.G., Hunt, J.S. & Sipes, S.D. (2001) Horsetails and ferns are a monophyletic group and the closest living relatives to seed plants. *Nature* 409: 618–622.
- Puppi, G., Cristofolini, G. (1996) Systematics of the complex *Pulmonaria saccharata* – *P. vallisarsae* and related species (Boraginaceae). *Webbia* 51: 1–20.
- Rankou, H., Culham, A., Jury, S.L. & Christenhusz M.J.M. (2013) The endemic flora of Morocco. *Phytotaxa* 78: 1–69.
<http://dx.doi.org/10.11646/phytotaxa.78.1.1>
- Reveal, J.L. & Chase, M.W. (2011) APG III: Bibliographical Information and Synonymy of Magnoliidae. *Phytotaxa* 19: 71–134.
- Romolini, R. & Souche, R. (2012) *Ophrys d'Italia*. Société Occitane d'Orchidologie, Saint-Martin-de-Londres, 576 pp.
- Rossi, G., Montagnani, C., Abeli, T., Gargano, D., Peruzzi, L., Fenu, G., Magrini, S., Gennai, M., Foggi, B., Wagensommer, R.P., Ravera, S., Cogoni, A., Aleffi, M., Alessandrini, A., Bacchetta, G., Bagella, S., Bartolucci, F., Bedini, G., Bernardo, L., Bovio, M., Castello, M., Conti, F., Domina, G., Farris, E., Gentili, R., Gigante, D., Peccenini, S., Persiani, A.M., Poggio, L., Prosser, F., Santangelo, A., Selvaggi, A., Villani, M.C., Wilhalm, T., Zappa, E., Zotti, M., Tartaglioni, N., Ardenghi, N.M.G., Blasi, C., Raimondo, F.M., Venturella, G., Cogoni, D., Puglisi, M., Campisi, P., Miserere, L., Perrino, E.V., Strumia, S., Iberite, M., Lucchese, F., Fabrini, G. & Orsenigo S. (2013) Are red lists really useful for plant conservation? The new red list of the Italian flora in the perspective of national conservation policies. *Plant Biosystems* 148: 187–190.
<http://dx.doi.org/10.1080/11263504.2013.868375>.
- Savi, G. (1798) *Flora Pisana* 1. P. Giacomelli, Pisa, 485 pp.
- Schatz, B., Gauthier, P., Debussche, M. & Thompson, J.D. (2013) A decision tool for listing species for protection on different geographic scales and administrative levels. *Journal for Nature Conservation*.
<http://dx.doi.org/10.1016/j.jnc.2013.09.003>.
- Schultz, K.H. (1845) Hypochoerideae. *Novorum Actorum Academiae Caesareae Leopoldinae-Carolinae Naturae Curiosorum* 21: 85–172.
- Siljak-Yakovlev, S. & Peruzzi, L. (2012) Cytogenetic characterization of the endemics: past and future. *Plant Biosystems* 146: 694–702.
- Smith, A.R., Pryer, K.M., Schuettpelz, E., Korall, P., Schneider, H. & Wolf, P.G. (2006) A classification for extant ferns. *Taxon* 55: 705–731.
<http://dx.doi.org/10.2307/25065646>
- Spalik, K. & Downie, S.R. (2007) Intercontinental disjunctions in *Cryptotaenia* (Apiaceae, Oenantheae): an appraisal using molecular data. *Journal of Biogeography* 34: 2039–2054.
<http://dx.doi.org/10.1111/j.1365-2699.2007.01752.x>
- Stevens, P.F. (2008 onwards) *Angiosperm Phylogeny Website. Version 9, June 2008 [and more or less continuously updated since]*. Available at: <http://www.mobot.org/MOBOT/research/APweb/>. (accessed 15 March 2013).
- Tausch, J.C. (1836) Ueber zwei bisher unbeschriebene, schon längst aufgefundenene deutsche Alpenpflanzen. *Flora* 19: 33–37.
- The Plant List (2010) *Version 1*. Royal Botanic Gardens Kew. Available at: <http://www.theplantlist.org/> (accessed 15 March 2013).
- Trigas, P., Tsfitsis, S., Tsiripidis, I. & Iatrou, G. (2012) Distribution patterns and conservation perspectives of the endemic flora of Peloponnese (Greece). *Folia Geobotanica* 47: 421–439.
- Troia, A. & Greuter, W. (2014) A critical conspectus of Italian *Isoetes* (Isoetaceae). *Plant Biosystems* 148: 13–20.
<http://dx.doi.org/10.1080/11263504.2013.878409>.
- Troia, A. & Raimondo, F.M. (2009) *Isoetes todaroana* (Isoëtaceae, Lycopodiophyta), a new species from Sicily (Italy). *American Fern Journal* 99: 238–243.
<http://dx.doi.org/10.1640/0002-8444-99.4.238>
- Ungricht, S. (2004) How many plant species are there? And how many are threatened with extinction? Endemic species in global biodiversity and conservation assessments. *Taxon* 53: 481–484.
- Wagensommer, R.P., Frölich, T. & Frölich, M. (2014) First record of the southeast European species *Cerintho retorta* Sibth. & Sm. (Boraginaceae) in Italy and considerations on its distribution and conservation status. *Acta Botanica Gallica*
<http://dx.doi.org/10.1080/12538078.2014.892438>