Phytotaxa 000 (0): 000–000
www.mapress.com/phytotaxa/
Copyright © 2015 Magnolia Press

Correspondence

ISSN 1179-3155 (print edition)
PHYTOTAXA
ISSN 1179-3163 (online edition)

http://dx.doi.org/10.11646/phytotaxa.00.0.0

A note on the type of the name *Rhizobotrya alpina* (Brassicaceae)

MARIACRISTINA VILLANI[1*], ROSSELLA MARCUCCI[2] & LORENZO PERUZZI[3]
[1]*Botanical Garden of Padua, University of Padua, via Orto Botanico 15, I-35123, Padua, Italy; e-mail: mariacristina.villani@unipd.it*
[2]*Herbarium Patavinum (PAD), University of Padua, via Orto Botanico 15, I-35123, Padua, Italy*
[3]*Department of Biology, University of Pisa, via Luca Ghini 13, I-56126, Pisa, Italy*
[*]*author for correspondence*

This study is related to the project "The Italian loci classici census", ongoing since 2010 (Domina *et al*. 2012, Peruzzi *et al.* 2015). During the analysis of systematic and nomenclatural aspects of the species involved, some difficulties related to the identification of type localities have been pointed out. Our contribution has the aim to clarify the nomenclatural history of *Rhizobotrya alpina* Tausch (1836: 34).

History of the name

In ancient literature, systematics and nomenclature of *Rhizobotrya alpina* (Tausch 1836: 34) was a strongly debated topic. In 1833 Francesco Secondo Beggiato (1806–1883), a young physician assistant of Botany at the University of Padua, sent some specimens collected during a field trip on the Vette di Feltre (a place currently located within the National Park of Dolomiti Bellunesi) to Antonio Bertoloni (1775–1868), with a letter asking for "…che si compiaccia di determinarmi quella *Draba* che già tempo unitamente ad altre pianticelle ebbi l'onore di gradirle…) ("...please identify the *Draba* I already sent you some time ago..."). The answer of Bertoloni will come only 11 years later, published in Flora Italica (Bertoloni 1844).

In the meantime, Tausch (1836) formally described *Rhizobotrya alpina,* with a diagnosis based on a plant ("einen caespes eines sehr kleinen Pflanzchens") received from Franz Wilhelm Sieber (1789–1844), intermingled with exsiccata of *Draba stellata* Jacq., a species endemic to Austria. Because this tiny plant had compressed fruits, Tausch first included it in his Herbarium as a new species of *Cochlearia* Linnaeus (1753: 647), as he pointed out in the protologue "…für eine neue *Cochlearia* hielt..." (Tausch 1836).

The binomial *Cochlearia brevicaulis* Facchini was published only in 1843 in "Synopsis Florae Germanicae et Helveticae" (Koch 1843), by citing *Rhizobotrya alpina* as a synonym. Hence it is a nomenclaturally superfluous name (Art. 52 of ICN; McNeill *et al.* 2012). A couple of years before, Koch suggested a closer affinity to *Cochlearia* than to *Kernera* Medicus (1792: 71) (Koch 1841), a third genus under which some early author classified this species (see beyond). Finally, Bertoloni (1844) published a complete and detailed description of this taxon, based on the collections of Beggiato and Facchini. He preferred the name *Cochlearia brevicaulis*, respect with *Rhyzobotrya alpina*, because the description of the latter name was not satisfactory for him and partly erroneous ("*Tauschianas hallucinationes*"). Only 11 years later Facchini (1855) published again his own description, in a last tentative to establish a priority for his binomial ("*Restitutionem prioris nominis relinquimus iis*…").

The most part of past systematists included this species within the genus *Cochlearia* (Schlechtendal & Hallier 1883, Fiori & Paoletti 1896, Fiori 1924), while Prantl (1891), Hegi (1919) and Dalla Torre & Harms (1900–1907) referred it to *Kernera*, and Dalla Torre & Sarnthein (1909) to the monotypic *Rhizobotrya*. Later Chiarugi (1933) analysed karyology, phytogeography and systematic features of this taxon, in order to clarify the relationships among *Kernera* and *Rhizobotrya*, validating the autonomy of *Rhizobotrya*, due to its geographic and systematic isolation.

The type of the name

In the protologue, Tausch (1836) referred generically to "Alpe des Kaiserstaates Oestereichs" ("Austrian Alps") as the locus classicus for *Rhizobotrya alpina*, based on Sieber's collections (see Introduction). An anonymous editorial footnote to the same paper, given the importance of the discovery (i.e. a new genus), is advising to contact directly Sieber for further details on collection localities. Actually, the unique original herbarium sheet found in the Herbarium Universitatis Carolinae

Accepted by Karol Marhold: 8 Nov. 2015; published: xx xxx. 2015

Pragensis (PRC!) consists of a single individual with fruits, an envelope with some flowers and fruits, an anonymous colour painting of the feature of the species with black and white details of silicula. This sheet bears a single autograph label "*Cochlearia pumila* Tau. v. Glokner".

Based on the information given in the protologue, the specimen PRC 454975 clearly represents the only material on which the name *R. alpina* was based. Hence, according to Art. 9.1 of ICN (McNeill *et al.* 2012), it can be considered as the holotype. Incidentally, the same individual was clearly used as model for the front page illustration of Icones Florae Germanicae et Helveticae (Reichenbach 1837–1838). The study of the holotype confirms the current application of the name (e.g. Heywood 1993, Marhold 2011, Peruzzi *et al.* 2014).

For historical purposes, we'd like to highlight the specimen collected by Beggiato in 1833 on Vette di Feltre and preserved in Herbarium BOLO. This represents the very first collection of this species, and the unique survived among those collected by Beggiato: his collection, which was in Vicenza, was destroyed during the II World War.

Rhyzobotrya alpina Tausch (1836: 34)

≡ *Kernera alpina* (Tausch) Prantl (1891: 167)

Type:—ITALY. **Trentino-Alto Adige**: *Cochlearia pumila* v. Glockner (manu Tausch) (holotype PRC 454974, digital image!). Note:—The characters quoted in the protologue (the small caespitose stem, leaves oblong-spathulate, obtuse, filaments of stamens curved, siliqua ovate and obtuse) are clearly visible in the specimen.

Acknowledgments

The authors wish to thank Tiziana Pampanin for the German translation, Pietro Mazzola for his valuable help. We thank Patrik Mráz and Jiří Hadnec (Herbarium PRC), Costantino Bonomi (Herbarium TR), Annalisa Managlia (Herbarium BOLO) for providing the digital images and Filippo Prosser (ROV) and Antonio Dal Lago (VI) for their helpful information.

References

Bertoloni, A. (1844) *Flora Italica* 6 (5). Richardi Masii Bononiae, pp. 513–642.

Chiarugi, A. (1933) Osservazioni cariologiche e sistematiche sui generi *Kernera* e *Rhizobotrya* (Cruciferae - Thlaspidinae). *Nuovo Giornale Botanico Italiano* 11: 63–75.
http://dx.doi.org/10.1080/11263503309432084

Dalla Torre, C.G. & Harms, H. (1900–1907) *Genera Siphonogamarum ad Systema Englerianum Conscripta*. Engelmann G., Lipsiae, 921 pp.

Dalla Torre, K.W. & Sarnthein, L.G. (1909) *Flora der gefursteten Graftschaft Tirol, des Landes Vorarlberg und des Furstenthumes Liechtenstein* 6(2). Innsbruck, 964 pp.

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: 1349–1354.

Facchini, F. (1855) *Flora Tiroliae Cisalpinae* 1. Zeitschr. Ferdinandeum Innsbruck III-5, 152 pp.

Fiori, A. (1924) *Nuova Flora Analitica d'Italia* 1(4). Ricci, Firenze, pp. 481–640.

Fiori, A. & Paoletti, G. (1896) *Flora Analitica d'Italia* 1. Padova, 607 pp.

Hegi, G. (1919) *Illustrierte Flora von Mitteleuropa: mit besonderer Berücksichtigung von Deutschland, Österreich und der Schweiz; zum Gebrauche in den Schulen und zum Selbstunterricht* 4 (1). J.F. Lehmanns Verlag, München, 542 pp.

Heywood, V.H. (1993) *Rhizobotrya* Tausch. *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* 1, Ed. 2. Cambridge University Press, Cambridge, pp. 380.

Koch, W.D.J. (1841) Die *Rhizobotrya* ist keine Heimath lose mehr? *Flora* 24: 159–160.

Koch, W.D.J. (1843) *Synopsis Florae Germanicae et Helveticae* 1, Ed. 2. Gebhardt et Reisland, Lipsia, 452 pp.

Linnaeus, C. (1753) *Species Plantarum* 2. Salvius, Stockholm, pp. 561–1200.

Marhold, K. (2011): Brassicaceae. – *In: Euro+Med Plantbase - the information resource for Euro-Mediterranean plant diversity*. Available from: http://ww2.bgbm.org/EuroPlusMed/query.asp (accessed 29 June 2015)

Medicus, F.K. (1792) *Pflanzen-Gattungen*. Swan und Götz, Mannheim, 128 pp.

McNeill, J., Barrie, F.R., Buck, W.R., Demoulin, V., Greuter, W., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Marhold, K., Prado, J., Prud'homme van Reine, W.F., Silva, P.C., Smith, G.F., Wiersema, J.H. & Turland, N.J. (Eds.) (2012) *International Code of Botanical Nomenclature For algae, fungi, and plants (Melbourne Code). Regnum Vegetabile* 154 A.R.G. Gantner, Koeltz Scientific Books, 240 pp.

Peruzzi, L., Conti, F. & Bartolucci, F. (2014) An inventory of vascular plants endemic to Italy. *Phytotaxa* 168: 1–75.

http://dx.doi.org/10.11646/phytotaxa.168.1.1

Peruzzi, L., Domina, G., Bartolucci, F., Galasso ,G., Peccenini ·S., Raimondo, F.M., Albano, A., Alessandrini, A., Banfi, E., Barberis, G., Bernardo, L., Bovio, M., Brullo, S., Brundu, G., Brunu, A., Camarda, I., Conti, F., Croce, A., Iamonico, D., Iberite ·M., Iiriti, G., Longo, D., Manca, A., Marsili, S., Medagli, P., Pistarino, A., Salmeri, C., Santangelo, A., Scassellati, E., Selvi, F., Soldano, A., Stinca, A., Vacca, G., Villani, M.C., Wagensommer, R.P. & Passalacqua, N.G. (2015) An inventory of the names of vascular plants endemic to Italy, their loci classici and types. *Phytotaxa* 196: 1–217.
http://dx.doi.org/10.11646/phytotaxa.196.1.1

Prantl, K. (1891) Cruciferae. *In*: Engler, A. & Prantl, K. (Eds.) Die natürlichen Pflanzenfamilien. Verlag von Wilhelm Engelmann, Leipzig, pp. 145–206.

Reichenbach, L. (1837–1838) *Icones Florae Germanicae et Helveticae* 2. Abel, Lipsiae, 32 pp., CII pl.

Schlechtendal, D.F.L. von & Hallier, E. (1883) *Flora von Deutschland* 14. Köhler, Gera-Untermhaus, 264 pp.

Tausch, J.C. (1836) Ueber zwei bisher unbeschriebene, schon langst aufgefundene deutsche Alpenpflanzen. *Flora* 19 (3): 33–35.

Thiers, B. (2015) *Index Herbariorum: A global directory of public herbaria and associated staff*. Available from: http://sweetgum.nybg.org/ih/ (accessed 29 June 2015)