

# Status clarification and disposal of Carrière's ivy names

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## Abstract

Nava, H.S., Cires, E. & Fernández Prieto, J.A. 2016. Status clarification and disposal of Carrière's ivy names. *Anales Jard. Bot. Madrid* 73(1): e031.

Carrière in 1890 published 34 names and 33 descriptions of a collection of live ivy plants. In this article we present the analysis of his work from a nomenclatural perspective. As a result, the legitimacy and even the validity of specific and some of the infraspecific names published in the work are questioned. In addition to this, and considering the benefits on keeping the nomenclatural stability, *Hedera azorica* Carrière, is proposed as a *nomen conservandum*.

**Keywords:** Araliaceae, Azores Islands, *Hedera azorica*, nomenclature, *nomina conservanda*.

## Resumen

Nava, H.S., Cires, E. & Fernández Prieto, J.A. 2016. Acerca de los nombres de hiedras de Carrière. *Anales Jard. Bot. Madrid* 73(1): e031.

Carrière en 1890 publicó 34 nombres y 33 descripciones de una colección de plantas vivas de hiedra. En este artículo se presenta el análisis de su obra desde una perspectiva nomenclatural. Como resultado, la legitimidad e incluso la validez de algunos de los nombres específicos e infraespecíficos publicados en la obra son puestas en tela de juicio. Además, teniendo en cuenta los beneficios de mantener la estabilidad nomenclatural, *Hedera azorica* Carrière se propone como *nomen conservandum*.

**Palabras clave:** Araliaceae, *Hedera azorica*, Islas Azores, nomenclatura, *nomina conservanda*.

## INTRODUCTION

E.A. Carrière effectively published —arts. 29-31 of the International Code of Nomenclature for Algae, Fungi, and Plants (McNeill & al., 2012— 34 names (Carrière, 1890), 33 of which were accompanied by descriptions, of a collection of live ivies owned by M. Honoré Defresne, a horticulturist from Vitry (Seine), which were exhibited at the Trocadéro Gardens (Paris). Some of these names have recently been used as names of accepted species in the genus *Hedera* L. (Araliaceae). Such is the case of *Hedera azorica* Carrière, a name that many authors (McAllister & Rutherford, 1997; López González, 2001; Schäfer, 2002, 2003; Valcárcel & al., 2003; Green & al., 2011; Schäfer & al., 2011) used for the plant growing on the Atlantic islands indicated by its specific epithet, and indeed attributed the name to E.A. Carrière (“Elie Abel Carrière 1818-1896”). Nevertheless, after the analysis of the work published by E.A. Carrière, the legitimacy and even the validity of publication of *Hedera azorica* and others, should be questioned.

## DISCUSSION

In the work of Carrière (1890), no direct or indirect reference to the works of previous authors is presented (arts. 41.3 and 44.1, McNeill & al., 2012), so the proposed names cannot, under any circumstance, be considered as new combinations. Furthermore, the types are obviously those cultivated plants by M.H. Defresne, of which no specimen was preserved.

In such a situation, the establishment of the taxonomic status of the described taxa is a priority, as E.A. Carrière did not explicitly indicate it. The use, in some cases, of binomial nomenclature might lead one to conclude that Carrière intended to describe species. However he also specified that all described plants can be also contained within the

“common ivy” (*Hedera helix* L.), even when an exotic origin might be considered: “*Nous la croyons même douteuse, car tous ces lierres nous paraissent sortir du lierre commun*”. Indeed, he refers to the described plants as forms or varieties, for example: “*H. gracilis*.— Sorte de Lierre commun... ”; “*H. poetica*.— Forme du lierre commun... ”; “*H. contracta*.— Sorte de petit Lierre commun... ”; “*H. aurantiaca*.— Forme à très-petites feuilles... ”; “*H. taurica*.— Forme sylvestre du Lierre commun... ”; “*H. hibernica*.— Cette forme... ” or “*Quant au nombre des variétés...*”.

It seems clear, therefore, that E.A. Carrière described infraspecific taxa without definite indication of rank (art. 37.3, McNeill & al., 2012). Some additional explanations from the author might help in establishing the category of described plants: “*En écrivant cette note sur les Lierres, notre intention n'est pas faire de la science, mais seulement d'appeler l'attention sur des plantes commerciales...*”. Therefore, in case his aim was about describing commercial plants, rather than formally publishing names with a scientific purpose, the proposed names may be considered as cultivars with binomial formulation given the informative intention of his publication (art. 28, note 4, McNeill & al., 2012). In fact some names correspond to known cultivars at that time, for example:

*Hedera combwoodiana* Carrière, Rev. Hort. (Paris) 62: 162 (1890) = *H. helix* “Caenwoodiana”. In this case a spelling mistake leads to an incomprehensible epithet, as seems to be dedicated to Combwood, without any further explanation, being the only case referred to a person and not to a country or specific morphology.

*Hedera cordata* Carrière, Rev. Hort. (Paris) 62: 164 (1890) = *H. helix* “Cordata”.

*Hedera purpurea* Carrière, Rev. Hort. (Paris) 62: 163 (1890) = *H. helix* “Purpurea”.

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In addition, *H. caucasica* Carrière, Rev. Hort. (Paris) 62: 164 (1890), was a previously known cultivar name, evidenced by the existence of *H. caucasica* Hort. ex Lavallée, Enum. Arbres: 126 (1877), nom. nud.

These are not the only coincidences, since many of the names used by E.A. Carrière had already been used by other authors. The following ten names are illegitimate at infra-specific category, by application of Art. 53 (McNeill & al., 2012):

*Hedera arborea aurea* Carrière, Rev. Hort. (Paris) 62: 164 (1890), non *H. helix* var. *aurea* Hibberd, The Ivy: 96 (1872).

*Hedera aurantiaca* Carrière, Rev. Hort. (Paris) 62: 163 (1890), nom. illeg., non *H. helix* var. *aurantiaca* Hibberd, Fl. World Gard. Guide 7: 71 (1864).

*Hedera chrysophylla* Carrière, Rev. Hort. (Paris) 62: 163 (1890), nom. illeg., non *Hedera helix* var. *chrysophylla* Hibberd, The Ivy: 85 (1872).

*Hedera conglomerata* Carrière, Rev. Hort. (Paris) 62: 162 (1890), nom. illeg., non *H. helix* var. *conglomerata* G. Nicholson, Ill. Dict. Gard. 2: 121 (1885).

*Hedera contracta* Carrière, Rev. Hort. (Paris) 62: 163 (1890), nom. illeg., non *H. helix* var. *contracta* Hibberd, The Ivy: 70 (1872).

*Hedera dentata* Carrière, Rev. Hort. (Paris) 62: 162 (1890), nom. illeg., non *H. helix* var. *dentata* (Hibberd) G. Nicholson, Ill. Dict. Gard. 2: 121 (1885) [*H. coriacea* var. *dentata* Hibberd, The Ivy: 106 (1872)].

*Hedera gracilis* Carrière, Rev. Hort. (Paris) 62: 163 (1890), nom. illeg., non *H. helix* var. *gracilis* Hibberd, Fl. World 7: 58 (1864).

*Hedera himalaica* Carrière, Rev. Hort. (Paris) 62: 164 (1890), nom. illeg., non *H. helix* var. *himalaica* Hibberd, Fl. World Gard. Guide 7: 57 (1864).

*Hedera submarginata* Carrière, Rev. Hort. (Paris) 62: 163 (1890), non *H. helix* var. *submarginata* Hibberd, The Ivy: 80 (1872).

*Hedera taurica* (Hibberd) Carrière, Rev. Hort. (Paris) 62: 163 (1890), nom. illeg., non *H. helix* var. *taurica* Hibberd, Fl. World Gard. Guide 7: 58 (1864).

Besides, *H. hibernica* Carrière, Rev. Hort. (Paris) 62: 163 (1890), non *H. helix* var. *hibernica* G. Kirchn., Arbor. Muscav. 419 (1864) is a *nomen nudum*, and consequently those subordinated ones are neither not validly published names (art. 35.1, McNeill & al., 2012): *H. hibernica aureo-marginata* Carrière, Rev. Hort. (Paris) 62: 163 (1890), *H. hibernica aureo-marginata* Carrière, Rev. Hort. (Paris) 62: 164(1890) (two simultaneous homonyms), and *H. hibernica marginata* Carrière, Rev. Hort. (Paris) 62: 163 (1890). The same could be applied to *H. rhombaea foliis variegatis* Carrière, Rev. Hort. (Paris) 62: 164 (1890), as *H. rhombaea* was not validly published in its specific category.

Moreover, Durand & Jackson (1906) considered the two above mentioned names as species, as well as other 21 binomina, making all of them synonyms of *H. helix*. From this list two species are excluded: *H. dentata* Carrière, Rev. Hort. (Paris) 62: 163 (1890) and *H. integrifolia* Carrière Rev. Hort. (Paris) 62: 163 (1890), as they were cited as synonyms (art. 36.1c, McNeill & al., 2012) and hence there are not validly published names.

Eight of these names are illegitimate in that category (art. 53.1, McNeill & al., 2012):

*Hedera algeriensis* Carrière, Rev. Hort. (Paris) 62: 164 (1890), nom. illeg., non *H. algeriensis* Hibberd, Fl. World 7: 57 (1864).

*Hedera angularis* Carrière, Rev. Hort. (Paris) 62: 163 (1890), nom. illeg., non *H. angularis* (Willd. ex Schult.) DC., Prodr. (DC.) 4: 263 (1830). *Aralia angularis* Willd. ex Schult., Syst. Veg. 6: 698 (1820).

*Hedera arborea* Carrière, Rev. Hort. (Paris) 62: 164 (1890), nom. illeg., non *H. arborea* (L.) Sw., Fl. Ind. Occid. 1: 818 (1797)

*Aralia arborea* L., Syst. Nat., ed. 10: 967 (1759). *Dendropanax arboreus* (L.) Decne. & Planch., Rev. Hort. 16: 107 (1854).

*Hedera canariensis* Carrière, Rev. Hort. (Paris) 62: 163 (1890), nom. illeg., non Willd., Mag. Neuesten Entdeck. Gesammten Naturk. Ges. Naturf. Freunde Berlin 2: 171 (1808).

*Hedera chrysocarpa* Carrière, Rev. Hort. (Paris) 62: 162 (1890), nom. illeg., non Walsh, Trans. Hort. Soc. London 6: 42 (1825).

*Hedera japonica* Carrière, Rev. Hort. (Paris) 62: 162 (1890), nom. illeg., non Jungh., Tijdschr. Natuurk. Gesch. Physiol. 7: 307 (1840).

*Hedera palmata* Carrière, Rev. Hort. (Paris) 62: 163 (1890), nom. illeg., non (DC.) Voigt, Hort. Suburb. Calcutt. 25 (1845). *Gilibertia palmata* DC., Prodr. 4: 256 (1830).

*Hedera poetica* Carrière, Rev. Hort. (Paris) 62: 163 (1890), nom. illeg., non Salisb., Prodr. Stirp. Chap. Allerton 143 (1796).

Therefore, thirteen of the names published by E.A. Carrière could be used at specific level, and *H. submarginata* Carrière, Rev. Hort. (Paris) 62: 163 (1890) should be added to the twelve collected by Duran & Jackson (1906).

The work of E.A. Carrière describing these ivies fell into oblivion, largely because most of them have always been considered, as he supposed, varieties and forms of *H. helix*. Nevertheless, in recent years his work has been claimed to name the ivy from Azores Islands, as most authors (McAllister & Rutherford, 1997; López González, 2001; Schäfer, 2002, 2003; Valcárcel & al., 2003; Green & al., 2011; Schäfer & al., 2011) consider it as a new species: *H. azorica* Carrière, Rev. Hort. (Paris) 62: 163 (1890). This plant was previously identified as *H. canariensis* Willd. [*H. helix* subsp. *canariensis* (Willd.) Cout.] (Palhinha, 1966; Webb, 1968; Sjögren, 1973, 1984; Franco, 1984; Hansen & Sunding, 1993), as the typical or as a variety: *H. canariensis*  $\beta$  *azorica* Gand., Bull. Soc. Bot. France 46: 254 (1899). The specific identity of this plant and its independent status are clear after considering all the molecular evidence provided by Ackerfield & Wen (2002, 2003) and Valcárcel & al. (2003).

## CONCLUSIONS

After considering the state of the current knowledge, two possible solutions are proposed: either to declare *opera opressa* the work (Pre. 9, McNeill & al., 2012) “Une importante collection de Lierres” published by E.A. Carrière in 1890, which would respect the author’s opinion and would avoid the problems of both the vagueness of the category and absence of types, or to propose *H. azorica* Carrière as *nomen conservandum* at the specific level (art. 14.1 and 12, McNeill & al., 2012), and choose a neotype to preserve its use in the sense adopted by the botanical community as currently used.



Fig. 1. Neotype of *Hedera azorica* Carrière (LIV; image courtesy of National Museum Liverpool).



As in any of the cases the decision would only affect the authorship of *H. azorica*, we consider the latter nomenclatural option the less disadvantageous, and therefore, following the criteria of McNeill & al. (2007), we will submit, to the General Committee of the International Association for Plant Taxonomy, the proposal of conservation of the name *H. azorica* Carrière.

In absence of any indubitable original material linked to the protologue, it seems advisable to select a neotype. A good choice for it, is a specimen, kept in the National Museum Liverpool (LIV), from San Miguel Island where many authors (e.g., Schäfer & al., 2002, 2003; Green & al., 2011) have confirmed the presence of *H. azorica*.

*Hedera azorica* Carrière, Rev. Hort. (Paris) 62: 163 (1890).  
TYPE: [Portugal. Azores Islands.] San Miguel Island, Lagoa do Congro, S. Andrews & A. Aguiar # 524, 19 May 1982 (neotype: LIV.2005.15.2203, designated here (Fig. 1).

Transcription of the neotype's labelling:

EXTRA-EUROPEAN HERBARIUM / *Hedera azorica* / Locality: Lagoa do Congro, San Miguel Island, Azores, N. Atlantic / Habitat: Growing above forest track with *Cryptomeria japonica*, *Pittosporum undulatum*, *Ilex perado* ssp *azorica*, *Laurus azorica* / Collector(s): Andrews, S & Aguiar (524) / Coll Date: 19/05/1982 / Grif Ref: / Accession No: LIV.2005.15.2203 / Cronquist No: 270

EX HERB. HORT. BOT. REG. KEW. / Azores / *Hedera azorica* / São Miguel, Lagoa do Congro. / Growing above forest track with *Cryptomeria japonica*, *Pittosporum undulatum*, *Ilex perado* subsp. *azorica*, *Laurus azorica*. / Alt. 400 m. / Prostrate, in dense shade. Petioles green. / 19.5.82 / S. Andrews, Dr. A. Aguiar / 524.

## ACKNOWLEDGEMENTS

We are deeply grateful to Prof. John McNeill and Dr. Javier Fuertes Aguilar for their valuable corrections and suggestions, and to the anonymous reviewers for helpful comments and suggestions that greatly improved the

manuscript. We also thank Wendy Atkinson (Assistant Curator of Botany at LIV) for the assistance in images collection.

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Associate Editor: Inés Álvarez  
Received: 15-VI-2012  
Accepted: 23-X-2015