NOMENCLATURAL REMARKS ON TWO NOTABLE SPECIES OF THE MACARONESIAN LAUREL FOREST

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ABSTRACT: The Macaronesian laurel forest harbors a unique and ancient flora, including several species of biogeographic and taxonomic significance. In this contribution, we address nomenclatural issues concerning two such species within the *Myricaceae*. The typification of the name *Myrica faya*, currently also known as *Morella faya*, is discussed in detail. A lectotype is designated for this name, based on a specimen housed at the BM herbarium and collected by Francis Masson in Madeira (Portugal). Additionally, a new nomenclatural combination is proposed: *Myrica rivas-martinezii* (A. Santos & J. Herbert) P.P. Ferrer, **comb. nov.,** based on *Morella rivas-martinezii* A. Santos & J. Herbert.
Keywords: Aiton; Canary Islands; *Hortus kewensis*; lectotype; Macaronesia; Madeira; Masson; *Morella*; nomenclature; Portugal; Spain; typification.

RESUMEN: Observaciones nomenclaturales sobre dos especies notables de la laurisilva macaronésica. El bosque de laurisilva macaronésico alberga una flora única y antigua, que incluye varias especies de gran importancia biogeográfica y taxonómica. En esta contribución, abordamos cuestiones nomenclaturales relacionadas con dos de estas especies pertenecientes a la familia *Myricaceae*. Se discute en detalle la tipificación del nombre *Myrica faya*, actualmente también conocido como *Morella faya*. Se designa un lectotipo para este nombre, basado en un espécimen conservado en el herbario BM y recolectado por Francis Masson en Madeira (Portugal). Además, se propone una nueva combinación nomenclatural: *Myrica rivas-martinezii* (A. Santos & J. Herbert) P.P. Ferrer, **comb. nov.,** basada en *Morella rivas-martinezii* A. Santos & J. Herbert. **Palabras clave**: Aiton; España; Islas Canarias; *Hortus kewensis*; lectotipo; Madeira; Macaronesia; Masson; *Morella*; nomenclatura; Portugal; tipificación.

INTRODUCTION

Myricaceae Rich. ex Kunth (1817: 16) nom. cons., is a small family, which has traditionally been considered to be monogeneric. However, there is currently considerable taxonomic disagreement regarding the number of genera that should be recognized within *Myricaceae* (KUBITZKI, 1993). The broadly defined genus *Myrica* Linnaeus (1753: 1024). is sometimes split into three distinct genera based on morphological differences. *Comptonia* L'Héritier ex Aiton (1789: 334) is frequently segregated due to its distinctive leaf morphology, the presence of stipules, and its characteristic bur-like fruits, which possess 6–8 accrescent bracts and bracteoles. *Morella* Loureiro (1790: 548) is occasionally elevated from its typical rank as a subgenus of *Myrica* to the status of a separate genus. This elevation is primarily justified by differences in the position of the catkins, the size of the staminate bracts, and the external features of the fruits (CHEVALIER, 1901; ELIAS, 1971).

These divergent classifications reflect broader debates in plant systematics about the weight that should be given to morphological versus molecular evidence, as well as differing philosophies of taxonomic ranking (i.e., lumping vs. splitting). Recent phylogenetic studies may offer additional insight into the monophyly and relationships among these taxa, potentially leading to a more stable consensus (see HUGUET & al., 2005).

Currently, taxonomic instability and a lack of consensus persist regarding the classification of species within the genus *Myrica*, with ongoing debate over whether certain species should instead be placed in the genus *Morella* (see KILLICK & al., 1998; WILBUR, 1994; 2001; TURNER, 2001; PARRA-O, 2002; KNAPP, 2002; HERBERT, 2005). *Myrica* comprises deciduous shrubs characterized by leaves with sunken stomata, inflorescences borne on the previous year's growth, and dry fruits with persistent, pongiotic bracteoles. In contrast, species of *Morella* are evergreen shrubs or trees, with leaves bearing non-sunken stomata, inflorescences produced on the current year's growth, and fruits that are fleshy, papillose, and sometimes covered with a waxy layer (see HERBERT, 2005).

The lectotype of the genus *Myrica* is *Myrica gale* Linnaeus (1753: 1024), designated by BRITTON & BROWN (1913: 584) (see also STEARN, 1957). This species is the only member of the genus native to Sweden and the only one that Linnaeus would have encountered in its natural habitat. Consequently, *Myrica gale* was the species best known to Linnaeus and represents an appropriate choice as lectotype for the genus.

Myrica faya Aiton (1789: 397) [≡ *Morella faya* (Aiton) Wilbur (1994: 103)], commonly known as "firetree", "faya", "fayatree", "firebush" or "haya" is native to Macaronesia, including the Azores, Madeira, and the Canary Islands. It plays a significant ecological role in the Macaronesian laurel forest (CHEVALIER, 1901; CEBALLOS & ORTUÑO, 1951; SANTOS, 1980;

WHITE, 1993; PÉREZ DE PAZ & HERNÁNDEZ, 1999; RUIZ DE LA TORRE, 2006; GONZÁLEZ PÉREZ & AL., 2009A, 2009B). However, this species grows abundantly in Hawaii, where it was introduced by Portuguese immigrants from Madeira and Azores in the XIX century, presumably as an ornamental plant (FOSBERG, 1937; SMATHERS & GARDNER, 1979). There, the tree is considered an invasive species, since it competes vigorously with Hawaiian native trees by its nitrogen-fixing capacity in the poor volcanic soils. In the European islands it is considered a valuable species while in Hawaii all efforts are made to eradicate it since no use is found for it (Gardner 1985, Smith 1985, Spínola & al. 2014).

On the other hand, *Morella rivas-martinezii* A. Santos & J. Herbert (2005: 294) is a sympatric species that co-occurs with *M. faya* in the laurel forests of La Gomera, El Hierro, and La Palma in the Canary Islands (see the nomenclatural note below). According to SANTOS (1980) and HERBERT (2005), these two species are distinct, it can be distinguished morphologically by its mature leaves, which are small (up to 20 mm), spathulate, and markedly different from the much larger, oblanceolate leaves of *M. faya*. However, molecular studies have shown that both taxa share the same genetic pool, with minimal genetic differentiation between them. These findings strongly suggest that they may represent the same taxon (GONZÁLEZ & al., 2009b). According these authors, is considered that the individuals of *M. rivas-martinezii* are probably a morphotype of *M. faya*, the consequence of a morphological variation (see ARAFEH & al., 2002; STEINER & al., 2006). However, there is still no scientific consensus on this matter (see SANTOS, 1980; CARQUE & al., 1997; BELTRÁN & al., 1999; BAÑARES & al., 2004; BATISTA & al., 2004; HERBERT, 2005; GONZÁLEZ & al., 2009a; POWO, 2025a).

The objective of this work is to analyze the nomenclatural type of the name. From a nomenclatural perspective, however, the name *Myrica faya* has not yet been typified. The purpose of this paper is to formally propose a typification for the name, thereby ensuring nomenclatural stability. This contribution represents another step in our broader ongoing efforts toward the nomenclatural clarification of the genus *Myrica* in Macaronesia.

MATERIALS AND METHODS

The protologue of *Myrica faya* was analyzed to identify original material pertinent to the typification. In the following account herbarium acronyms follow THIERS (2025+). The typification of these two names is in accordance with the rules and recommendations of the *Shenzhen Code* (TURLAND & al., 2018).

RESULTS AND DISCUSSION

Typification of *Myrica faya*

Aiton's protologue (1789: 397) of *Myrica faya* consisted of a short diagnosis ("3. M. [Myrica] foliis elliptico-lanceolatis subserratis, amentis masculis compositis, drupa nucleo quadriloculari") followed by six annotations: 1) "Azorian Candleberry Myrtle"; 2) "Nat. of Madeira and the Azores. Mr. Fr. [Francis] Masson."; 3) "Introd. 1777"; 4) "Fl. June and July"; 5) "H." (indicating that this species is "Hardy"); and 6) "ƀ." (indicating that this species is shrubby [see Aiton 1789: page xxx [30] for abbreviations]).

In the 1780s, William Aiton set out to catalogue every plant grown at Kew. The result, published in 1789, was called *Hortus kewensis* (a catalogue of the plants cultivated in the Royal Botanic Garden at Kew) and included information on the country of origin of each plant and who first cultivated it in britain. The botanical descriptions in the *Hortus kewensis* were not written by the Aitons (William Aiton [1731–1793] and William Townsend Aiton [1766–1849]), but by Daniel Carl Solander, Jonas Carlsson Dryander and Robert Brown (SEE BRITTEN 1912; KROK 1925). Specifically, the diagnoses in *Hortus kewensis* vols. 1 & 2 were largely written by dryander, who used a manuscript left by Solander (BRITTEN, 1912; KROK, 1925; RAUSCHENBERG, 1968; BRIDSON & al., 1980; STAFLEU & COWAN, 1985). The International Code of Nomenclature (*ICN*, Art. 46.8, ex 43; TURLAND & al., 2018) specifies that names of new taxa published in *Hortus kewensis* (1789) are to be "attributed to Aiton, the stated author of the work, except where a name and description were both ascribed in that work to somebody else".

Francis Masson (1741-1805) was a Scottish botanist & gardener, in the 1760s he went to work at Kew Gardens. As an under-gardener he was the first official plant collector sent from the Royal Botanic Gardens of Kew by the director Sir Joseph Banks. Between 1776 and 1779 he undertook extensive plant collecting on the Macaronesian archipelagos of Madeira, the Azores and the Canaries.

There is a relevant specimen of *M. faya* preserved at BM. The sheet, with barcode BM000999096, bears three stems, one stem with leaves and male catkins, a second stem with leaves and fruit, and a third stem with leaves only. The sheet also bears a handwritten label, annotated as "Madeira F. Masson in sylvis versus septentrionem"

We have not been able to locate other *M. faya* material from Masson's gathering in other herbaria consulted. In this sense, as the protologue was published prior to 1958, and only a single gathering (indicated as geographical locality (Madeira) and/or collector (Francis Masson) and/or date (in this case introduced at Kew in 1777), see Art. 40 Note 2 of the *ICN*) but not a single specimen, is indicated as the basis of a new taxon but without the word 'type'; it can be established that the author used at least a specimen, but as we cannot exclude that there was originally more than one specimen of the taxon in his collection (e.g., AWH, BR, CGE, DBN, HAL, LD, LINN, MO, OXF, P, PH, UPS) (see STAFLEU & COWAN 1985; RODRIGUES DE MORAES, 2013) or the gathering is represented by a single specimen, this specimen (BM000999096) is treated in this work as lectotype, but admitting that such specimens might well be holotype (see McNEILL, 2014).

In conclusion, the specimen, that can be treated as a syntype, it is in a good condition, and represents the traditional concept and current usage of the name (see ENGLER, 1888; WEBB & BERTHELOT, 1844-1850;

CHEVALIER, 1901; RUIZ DE LA TORRE, 2006). It is designate as the lectotype of the name *Myrica faya*.

Myrica faya Aiton, Hort. Kew. [W. Aiton] 3: 397 (1789)
≡ *Morella faya* (Aiton) Wilbur, Sida 16: 103 (1994)
Lectotype (**designated here** [or perhaps holotype]): – [Portugal] Madeira, s.d. [between 1776 and 1779], *F. Masson s.n.* (BM barcode BM000999096 [photo!]; image of the lectotype, see Fig. 1).

On the name *Myrica rivas-martinezii*

SANTOS (1980) published the name "*Myrica rivas-martinezii*", providing a complete description in both Latin and Spanish, along with information on the geographical provenance also in both Latin and Spanish: "Vivit in montibus Myrica fayae atque Erica arborea in Ferri (Hierro -I. Canarias) ingis ad 1200 m. altitudinem. Rara, Tantum ca. 20 exempla inventa sunt." and "Habita en los montes de Myrica faya y Erica arborea de las cumbres de el Hierro a 1200 m. Rara. Solo se han observado unos 20 ejemplares".

The type material was cited as follows in Latin: "Holotypi atque isotypi in herbario ORT. Colecta 22.II.1976 (nº 24649), 24.IV.1977 (nº 24642), VIII.1977 (cum fructu, *nº* 24649), 19.IV.1977 (cum inflorescentiis masculis)", and in Spanish: "Holotipos e isotipos en herbario ORT. Recolectado el 22.II.1976 (nº 24699), 24.IV.1977 (nº 24642), VIII.1977 (con fruto, *nº* 24649), 19.IV.1977 (con inflorescencias masculinas)". There appears to be a discrepancy in the numbering of the specimens: in the Latin text, specimen number 24649 is listed twice (collected on 19.II.1976 and 19.IV.1977), while in the Spanish version, the specimen collected on 22.II.1976 is numbered 24699 instead of 24649.

As HERBERT (2005: 294) noted, SANTOS (1980) cited multiple gatherings as "holotypes" ("*Holotypi*" in Latin and "*Holotipos*" in Spanish) and "isotypes" ("*isotypi*" in Latin and "*isotipos*" in Spanish)" for the name "*Myrica rivas-martinezii*". This practice violates the rules for valid publication under the Internacional Code of Nomenclature. Consequently, the name was not validly published (see *ICN* Art. 8 and 40; see TURLAND & al., 2018).

The name was validated by Santos and Herbert (in HERBERT, 2005) under the genus *Morella*, as *Morella rivas-martinezii* A. Santos & J. Herbert, and the holotype was indicated as: "TYPE: Spain. Canary Islands: Isla de Hierro, La Dehesa, 22 Feb. 1976, *A. Santos 24690* (holotype, ORT)". Currently, the name of these plants is accepted under the genus *Myrica* (see POWO, 2025b; WFO, 2025). In this communication, I propose the following new combination:

Myrica rivas-martinezii (A. Santos & J. Herbert) P.P. Ferrer, **comb. nov.**
≡ *Morella rivas-martinezii* A. Santos & J. Herbert, Novon 15: 294. 2005, basionym
– *Myrica rivas-martinezii* A. Santos in Fund. Juan March, Ser. Univ. Ci. Agrar 114: 45. 1980, not validly publ. (see *ICN* Art. 8 and 40; see TURLAND & al., 2018).

Holotypus: Spain, Canary Islands, Isla de Hierro, La Dehesa, 22 Feb. 1976, *A. Santos 24699* (ORT).

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Fig. 1. Lectotype of *Myrica faya* Aiton (BM, barcode BM000999096). Image courtesy of the herbarium BM, reproduced with permission.

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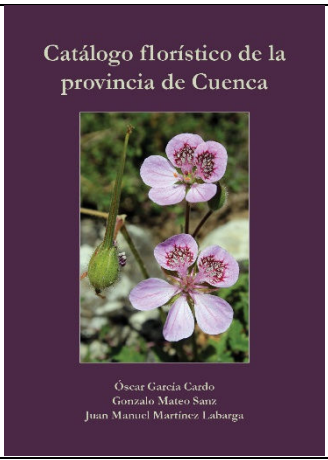

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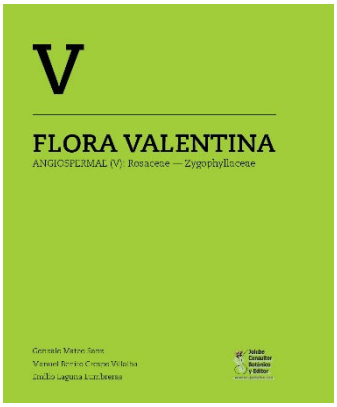

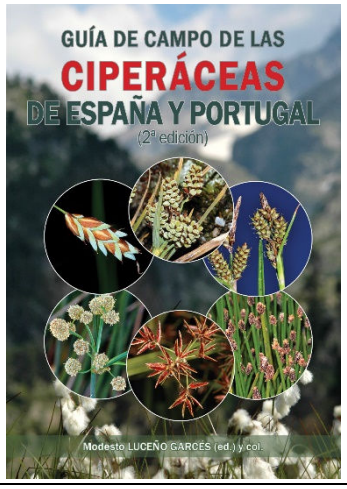

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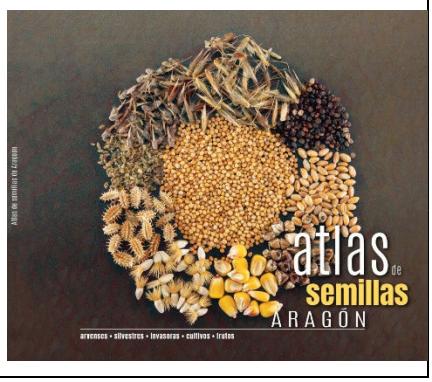

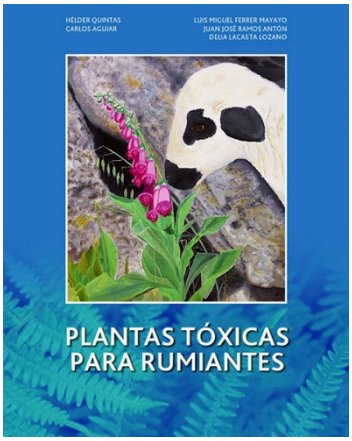

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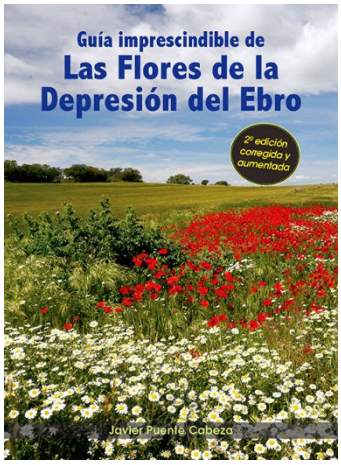

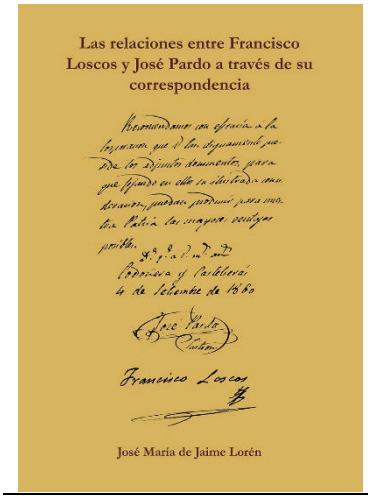

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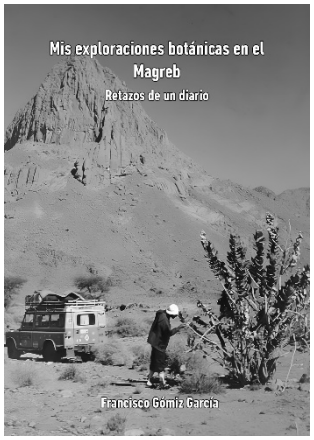

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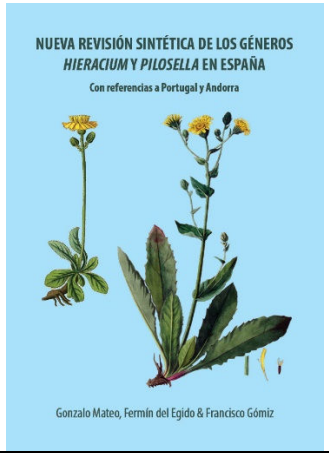

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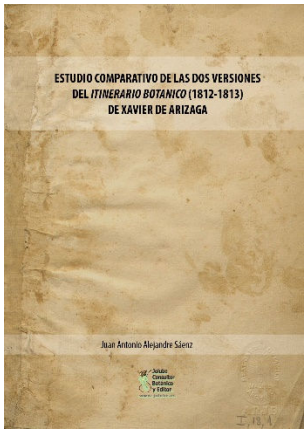

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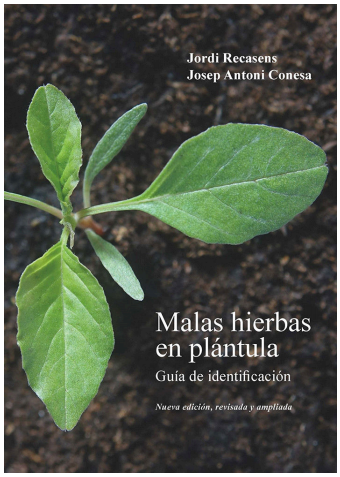

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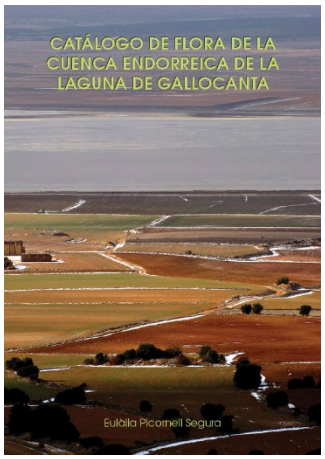

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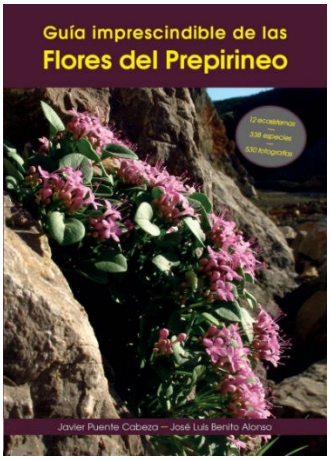

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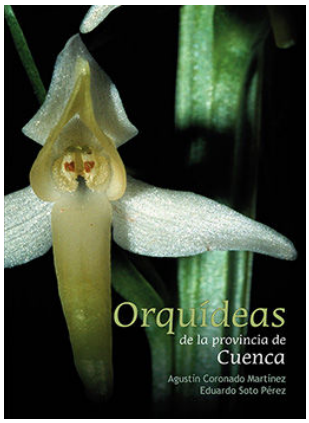

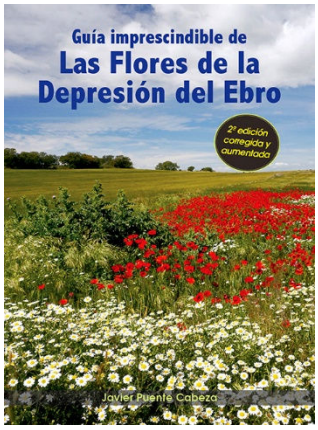

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