

# Lectotypification of three endemic taxa of *Ammi* L. (Apiaceae) from the archipelago of the Azores

by

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## Abstract

Lectotypes are designated here for taxa of the genus *Ammi* L. described by H.C. Watson from the Azores islands. The names *Ammi huntii* H.C. Watson, *A. seubertianum* (H.C. Watson) Benth. & Hook. f. ex Trel. and *A. trifoliatum* (H.C. Watson) Benth. & Hook. f. ex Trel. still remain untypified from their description. Those typifications constitute the starting point to further taxonomical studies on that aggregate.

**Keywords:** *Ammi*, Apiaceae, Azores, nomenclature, typification.

## Resumen

Se tipifican los táxones del género *Ammi* L. endémicos del archipiélago de las Azores, que fueron descritos por H.C. Watson. Los nombres de *Ammi huntii* H.C. Watson, *A. seubertianum* (H.C. Watson) Benth. & Hook. f. ex Trel. y *A. trifoliatum* (H.C. Watson) Benth. & Hook. f. ex Trel., permanecían sin tipificar desde su descripción original. Dichas tipificaciones se consideran el punto de partida para futuros estudios taxonómicos sobre este agregado.

**Palabras clave:** *Ammi*, Apiaceae, Azores, nomenclatura, tipificación.

## Introduction

Three endemic species of the genus *Ammi* L. were described from the Azores islands between 1842 and 1847 by the British botanist Hewett C. Watson (1804-1881). *Ammi trifoliatum* was said to grow in Flores Island (western part of the archipelago), *A. seubertianum* from Pico and São Miguel islands (respectively, central and eastern parts of the archipelago), and *A. huntii* from São Miguel (eastern Azores).

All those taxa share several morphological traits, such as leaves 1-3-pinnate with segments ovate, elliptic or lanceolate, entire to serrate; bracts entire to pinnatisect, in a very variable number, up to 24 mm; umbel rays 9-36, up to 40 mm; umbellule rays 13-30, up to 9 mm; bracteoles 6-9, up to 6 mm; fruit 1,3-2,5 mm, glabrous (sometimes with black trichomes), ovoid or oblong; sepals absent or very small; petals all equal, white.

The taxonomic position of the three taxa has been a matter of discussion in the second half of the 20<sup>th</sup> Century by some European authors. Franco (1971)

and Dias (1996) regarded all three as belonging to a single species, to which the former author erroneously applied the name *A. huntii* whilst the latter properly used the priority *A. trifoliatum*. Conversely, Pinto da Silva & al. (1974) accepted them as independent species. Others, such as Tutin (1968) accepted only two species: *A. huntii* (including *A. seubertianum*) and *A. trifoliatum*. Similarly, Schäfer (2002) also regarded two species, though with a different synonymy arrangement: *A. seubertianum* and *A. trifoliatum* (including *A. huntii*). Those controversial treatments show the taxonomic complexity of the aggregate.

Original materials of the three Azorean endemics were collected by Watson himself and by Mr. Thomas C. Hunt (the Britannic Majesty's Consul in the Azores by that time), and are conserved at both the Royal Botanic Gardens Kew (K) and the New York Botanical Garden (NY). As a part of our current taxonomic research about those taxa, we found that none of them had been previously typified, and their typification is of paramount importance to clarify the taxonomy of these species.

## Material and methods

For the purpose of selecting the lectotypes, original materials from K and NY were consulted. The protologues of the three taxa were examined, mainly taking into consideration: (a) specimen characteristics which match those in the protologue; (b) date and locality of collection cited in the original description; and (c) all handwrittings on the labels (in italics).

## Typification

1. ***Ammi huntii*** H.C. Watson, London J. Bot. 6: 382-384. 1847

*Ind. loc.*: "Habitat in insula Azorica 'San Miguel'; claro T. C. Huntio coll. et comm., anno 1846".

Type. PORTUGAL. **Azores**: Hab. Island of St. Michael's, Azores, 1846; Coll. *Com. Thomas Carew Hunt, Esq.*, Her Britannic Majesty's Consul in the Azores. Botanical Society of London (**lectotype, designated here**, K 000310814).

This taxon is characterized by: (1) leaf segments elliptic-lanceolate or obovate (L/W = 1.60-3.25), deeply and irregularly dentate, the upper inciso-serrate; (2) bracts trifid or pinnatisect, only divided in the apical third, with lobes filiform; (3) peduncle usually thick and shorter than both the adjacent leaf and the umbel rays; (4) bracteoles 3-6 mm, longer than the umbellule rays; and (5) fruit ellipsoidal.

Three specimens suitable for lectotypification are conserved at K and NY. All of them were collected by T.C. Hunt in São Miguel island in 1846, and show "*foliolis inciso-serratis, involucri foliolis trifidis pinnatifidisve*", as indicated in the protologue. However, one of the sheets at Kew (K 000310815) has no mature umbels, and that at New York (NY 405694) is fragmented in small pieces, being both, therefore, not suitable for lectotypification. Thus, the second sheet at Kew (K 000310814), which includes three big fragments bearing mature umbels is more appropriate to lectotypification. Among those three fragments, the one at the lower part of the sheet is here selected as the lectotype, since it shows mature umbels and the inciso-serrate upper leaves are well visible.

It should be noted that an additional label is glued on the right lower part, in which the handwriting "LECTOTYPE" signed by H.U. Khan on the 22th of March (no year indicated) is shown. It refers to the whole sheet and seems to be unpublished.

2. ***Ammi seubertianum*** (H.C. Watson) Benth. & Hook. f. ex Trel., Ann. Rep. Missouri Bot. Gard. 1897: 115. 1897

Basionym: *Petroselinum seubertianum* H.C. Watson, London J. Bot. 6: 386-387 (1847)

*Ind. loc.*: "Habitat ad vias juxta litus insularum Pico et San Miguel".

Type. PORTUGAL. **Azores**: *Petroselinum seubertianum* (H. Wats.). Hab. Island of St. Michael's, Azores, 1846; Coll. *Com. Thomas Carew Hunt, Esq.*, Her Britannic Majesty's Consul in the Azores. Botanical Society of London (**lectotype, designated here**, K 000310812).

*Ammi seubertianum* is a robust plant, a little fleshy and strongly divaricate, which can be easily distinguishable by: (1) upper and lower leaf segments ovate or obovate (L/W = 1,38-2,26), regularly dentate; (2) bracts absent, entire or pinnatisect with filiform lobes; (3) peduncle usually thick, larger than the adjacent leaf and the umbel rays; (4) bracteoles 2-3 mm, equal or shorter than the umbellule rays; and (5) fruit ovoid.

There are three sheets at Kew which match the protologue. One of them (K 000310811) was collected by the author in the shore of Pico in 1842, and includes one immature specimen. It appears to be the plant that Watson (1844) referred as "100 (-) Umbellifera. Pico. *E speciminibus fructu carentibus... genus dubium...*", since the habitat, year of collection and number of order are coincident with those indicated on the label. However, as it lacks fruits it has been considered incomplete and no suitable for lectotypification. Later, after studying more plants from São Miguel, Watson himself (1847) named this taxon as *Petroselinum seubertianum*, and indicated in the protologue "it is by no means with confidence that I now refer this dubious plant to the genus *Petroselinum*". It must be noted that he made a direct, undoubtful reference to "100. Umbellifera.", and mentioned it as growing in Pico and São Miguel.

The other two sheets were collected by Mr. Hunt in São Miguel in 1845 and 1846. Both include plants in which both leaf segments and bract morphology are clearly visible, and fit the protologue: "*foliolis ovatis acutis... omnibus (etiam supremis) dense serrulatis, involucri foliolis lineari-lanceolatis integerrimis, raro nullis aut caducis... Foliola inaequaliter cordato-ovata, saepius ovata, rarius elliptico-lanceolata...*". However, just one of them (K 000310812) including a single specimen shows perfectly the divaricate branching ("*caule striato divaricato-ramoso*") and the position of the umbels which are opposite or terminal ("*pedunculi foliis oppositi vel in ramulis terminales*"). Therefore, this sheet is chosen as the lectotype.

Regarding the correct author citation of this taxon, though Bentham & Hooker (1867) did not really make the combination, they affirmed that both *Pe-*

*troselinum trifoliatum* and *P. seubertianum* matched better the genus *Ammi* than *Petroselinum*. This fact was also mentioned by Trelease (1897) as follows: “This [*Ammi seubertianum*] and the following [*Ammi trifoliatum*], described as species of *Petroselinum* by Watson because of their undivided involucreal leaves, are nevertheless placed in *Ammi* by Bentham and Hooker, Gen. Plant. 1: 889, so that those authors are virtually responsible for the binomial here used though they do not actually employed it”. By those reasons, we believe that the combination of the present and the following species under *Ammi* should be cited as indicated in each case.

**3. *Ammi trifoliatum*** (H.C. Watson) Benth. & Hook. f. ex Trel., Ann. Rep. Missouri Bot. Gard. 1897: 115. 1897

Basionym: *Petroselinum trifoliatum* H.C. Watson, London J. Bot. 3: 593 (1844)

*Ind. loc.*: “103 [...] Hab. in rupibus prope urbem Santa-Cruz, in insula Flores; alibi non visa”.

Type. PORTUGAL. **Azores**: 103. *Petroselinum trifoliatum* Wats. Unascertained, Collected in the Azores. Flores, July 1842. *Hewett C. Watson (lectotype, designated here, K 000310817)*.

This is a slender, erect plant characterized by: (1) leaf segments lanceolate (L/W = 1,84-3,93), regularly dentate; the upper, entire, regularly dentate or lacinate; (2) bracts entire or pinnatisect just from the base, with lanceolate lobes; (3) peduncle thin, usually shorter than the adjacent leaf and the umbel rays; (4) bracteoles 2-6 mm, frequently larger than the umbelule rays; and (5) fruit elipsoidal.

*Ammi trifoliatum* is the only Azoric endemic of the genus which is included in both the Annex II of the Habitat Directive 92/43/CEE and the Annex I of the Berna Convention, since the other related species were considered either as synonyms or as doubtful taxa. It has been labelled as “endangered” (EN 2i,ii,iii) according to IUCN categories, and its conservation is currently strongly recommended.

One sheet exists at Kew (K 000310817) which appears to be used as original material. It includes plants collected in Flores island in 1842, and the label is annotated “103. *Petroselinum trifoliatum* Wats.”, clearly fitting the protologue. Three fragments are included, two of which show clearly the morphological traits depicted in the original description: “*foliolis saepius basi inaequalibus: (...) superiorum lanceolatis subintegris, involucri foliolis lineari-lanceolatis integerrimis (...)*”. However, since that on the right side is the only bearing a flowering umbel in which the bracts are noticeable, it is here selected as the lectotype.

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