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## The typification of species names published by Eric Sventenius

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**ABSTRACT:** Sventenius published the names and descriptions of new species mainly in two major works, the *Additamentum ad Floram Canariensem* in 1960 and *Plantae Macaronesienses Novae vel minus Cognitae 1-3* between 1969 y 1971. Both these publications, written in Latin, have been the subject of controversy in recent years over the question of whether the new species names published by Sventenius comply or not with the rules of the International Code of Botanical Nomenclature which is the international legal framework governing the scientific names of plants. Here it is argued that the Sventenius names are validly published and should be accepted as such.

**KEYWORDS:** Sventenius / nomenclature / valid publication / Canary Islands.

**RESUMEN:** Sventenius publicó los nombres y descripciones de nuevas especies principalmente en dos obras principales, el *Additamentum ad Floram Canariensem* en 1960 y *Plantae Macaronesienses Novae vel minus Cognitae 1-3* entre 1969 y 1971. Ambas publicaciones, escritas en latín, han sido objeto de controversia en últimos años sobre la cuestión de si los nuevos nombres de especies publicados por Sventenius cumplen o no con las normas del Código Internacional de Nomenclatura Botánica, que es el marco jurídico internacional que rige los nombres científicos de las plantas. Aquí se argumenta que los nombres de Sventenius están publicados válidamente y deben ser aceptados como tales.

**PALABRAS CLAVE:** Sventenius / nomenclatura / publicación válida / islas Canarias

## INTRODUCCIÓN

Eric Sventenius (1910-1973), the founder of the Jardín Botánico Canario “Viera y Clavijo” was one of the most important students of the Canary Islands flora in the 20th Century. His detailed and intrepid exploration of each island led to the discovery of over 100 species of plants new to science and many of these were published in a series of 26 articles in scientific journals and books between 1946 and 1971. His publication of new species was mainly in two major works, the *Additamentum ad Floram Canariensem* (Sventenius, 1960) and *Plantae Macaronesienses Novae vel minus Cognitae 1-3* between 1969 y 1971.

Both these publications, written in Latin, have been the subject of controversy in recent years over the question of whether the new species names published by Sventenius comply or not with the rules of the *International Code of Botanical Nomenclature* which is the international legal framework governing the scientific names of plants. In two papers on the genus *Sonchus* L. Boulos (1967a,b) was the first to claim that the names published by Sventenius were not originally validly published presumably because he did not consider that Sventenius had designated holotypes. Boulos, however, did not present any discussion or arguments in favour of his decision to declare the Sventenius names “illegitimate” simply citing them as synonyms of his own new species with a note stating “*nom. illegit. Art. 37[40].*”<sup>\*</sup> On the other hand, Boulos’ replacement names can be considered to be illegitimate as they were nomenclaturally superfluous when published. Following Boulos, Kunkel and Sunding (Kunkel, 1969) rejected the name *Androcymbium psammophilum* a new species from Fuerteventura published in 1960 by Sventenius in the *Additamentum ad Floram Canariensem*, on the grounds that the it was an illegitimate name under Article 37 of the Code (again presumably because they did not consider that Sventenius had designated a holotype and therefore, the name would be invalidly published but not illegitimate according to the Code) but without specifying why they considered the name to be invalid and with no discussion of the subject. They simply renamed the species *Androcymbium fuerteventurae* citing Sventenius’ name as *nom. illegit. Art.37 [40]...*. The absence of any discussion by these authors as to why they considered that the names published by Sventenius do not comply with Article 37 [40] of the International Code of Botanical Nomenclature does not facilitate the understanding of the reasons for their decisions.

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<sup>\*</sup>Articles corresponding to the current (2012) International Code of Botanical Nomenclature are cited in bold type. Article numbers from previous codes used in author quotations etc. are followed by the current Article number in bold and brackets eg Art. 37 [40].

Bramwell (1970) published a short note justifying the validity of the Sventenius names and rejecting the new names given to the same species by Boulos, Kunkel and Sunding.

In most recent publications on the Canary Flora the Sventenius names have been accepted but in the most recently published "*Lista de Especies Silvestres de Canarias*" (various authors 2009), however, the authors continue to use the Boulos names for *Sonchus* (including *Atalanthus*) species and, therefore, the issue should be cleared up definitively as a recent publication (Mejias *et al.* 2013) only confuses the issue more.

### DID SVENTENIUS' HOLOTYPES EXIST?

In 1969 I was able to study the holotypes of *Echium triste*, *E. acanthocarpum* and *E. handiense* in the Orotava herbarium. The herbarium of Sventenius was to say the least unconventional as specimens were not ordered taxonomically but by collecting excursions and dates though he, himself, could quickly locate the material I requested. The same occurred with the types of Sventenius' *Argyranthemum* species requested by C.J. Humphries during our collecting trip to the Canary Islands in 1971. At the time Sventenius had been recently appointed Director of the Jardín Botánico Viera y Clavijo, Gran Canaria and explained to us that he was selecting his most important specimens (basically his types and duplicates of other "special discoveries") to take with him to Las Palmas. These specimens do not seem to have remained in the Orotava herbarium (Mejias *et al.*, 2013) but never reached Las Palmas, their whereabouts is a mystery. As pointed out by Bramwell (1970) and by Mejias *et al.* (2013) in the protologue of the *Additamentum* Sventenius clearly indicates that holotypes existed and states that the excellent, detailed illustrations were made in the style of the holotypes ("*illustrationes factae sunt ratione habita holotyporum qui in herbario horti plantarum arautapensis asservantur*"). The fact here is that Sventenius went to the extent of categorically stating that holotypes existed in 1960 when he published the *Additamentum ad Floram Canariensem*. Should we doubt his word or should we assume that the specimens existed at the time of its publication in 1960? If we accept that they did, it means from a nomenclatural point of view with a strict interpretation of the Code that the species names are validly published. Even though in some cases he cited more than one specimen in the protologue and even though he does not use the term "*holotypus*" he generally gives one specimen priority as being from the single "*locus originis*" or type locality. He always uses the singular *locus originis* and not the plural *loci origines* indicating that he is referring only to a single gathering

from one locality as the type. For example, in the case of *Sonchus ortunoii* he cites the *locus originis* as “*en profunda valle vulgo dicta “Marandon” versus 600 m. supra mar*” and gives a date 6th of October 1956 and then cites a second collection from 1957 in *Magno Cavo Argagae ad 200 m alt.* he is clearly distinguishing his holotype locality (*locus originis*) Marandon from a second locality Argaga (this collection is a paratype). Even when he cites two collections from the same locality, his second collection is frequently distinguished by the use of a term such as *postea* (later) and always by having a different collecting date so that his first collection (specimen) citation adjacent to the words *locus originis* can be considered as the single element required by the Code for typification of the name because of its unique collecting date.

## THE INTERNATIONAL CODE OF BOTANICAL NOMENCLATURE

The following Articles of the *International Code of Botanical Nomenclature* are relevant to the correct interpretation of Sventenius’ methods. Article 9.1 note 1 states that any designation made by the original author if definitely expressed at the time of the original publication of the name of the taxon, is final. If the author used only one element, that one must be accepted as the holotype. Article 40.1 of the Code states that “Publication on or after the 1st of January 1958 of the name of a new taxon of the rank of genus or below is valid only when the type of the name is indicated.” It can only be presumed that, because Sventenius did not use the word holotype or type (or *holotypus* or *typus*) to indicate a type specimen in his original description, Boulos (1967) and Kunkel & Sunding (1969) did not consider the names published in the *Additamentum* as complying with this Article. The validity of the names, however, depends on the interpretation of the word “indicated” defined in the Concise Oxford Dictionary of Current English (1964) thus: Indicate – Point out, make known, show, suggest, call for, state briefly; be a sign of, betoken. This has been discussed by several authors, for example Bramwell (1970) and Brummitt (1969) who states that “a simple citation of a locality even if it is designated as *locus classicus* cannot be interpreted as an indication of a type specimen. If any other detail suggesting existence of a specimen is given, such as a precise date or collector’s name, I have accepted that ART. 37 [Art. 40] has been complied with on account of the breadth of possible interpretation of the word “indicated” used in the Code”, It has also been clearly defined in the 1994 version of the International Code in the form of an additional clause to Article 37 [40] (clause 37.3 [40.3]).

Article 37.3 [40.3] states “For the name of a new species or infraspecific taxon, mention of a single element or gathering or illustration even if that element is not

explicitly designated as type, is acceptable as indication of the type. Mere citation of a locality without concrete reference to a specimen does not however constitute indication of a holotype. Citation of the collector's name and/or collecting number and/or date of collection and /or reference to any other detail of the type specimen or illustration is required". In the recommendations of Article 7 [9] of the Code, 7 B:2 [ Art.9 A, 1] says that "typification of names for which no holotype was designated should only be carried out with an understanding of the author's method of working..." The Code states that the method of work of the author should be taken into consideration and I believe that none of the name changers have done that that in the case of the publications of Sventenius. Even though the holotypes may be now missing and might have been lost in the period of Sventenius' move from Orotava to Gran Canaria, or destroyed, the Orotava herbarium has been moved more than once in the last few decades, this is irrelevant. The correct procedure is, according to articles 7.4 [9.2] of the Code, in the absence of a specimen that can be considered to be the designated holotype, is to select a lectotype or neotype for each of Sventenius' names without the need to invalidate and change that name. Sventenius, in all his new species in both the *Additamentum ad floram canariensem* (1960) and in the various parts of *Plantae Macaronesienses* refers to a type locality (*Locus originis*) under which he cites a single collection of his own with its collecting date and information. This method of working should be taken into account when typifying his new species "If the author used only one element, that one must be accepted as the holotype" (Art.9.1 note 1).

Further support for the validity of the names comes from the fact that he also states in the Latin preface to the *Additamentum* he uses a phrase which clearly indicated the existence of holotypes conserved in the herbarium of the Orotava Botanical Garden (ORT) at the time of publication in 1960. Brummitt (1969) states "If any other detail suggesting existence of a specimen is given, such as a precise date or collector's name, I have accepted that ART. 37 [40] has been complied with on account of the breadth of possible interpretation of the word "indicated" used in the Code".

The argument put forward by (Mejias *et al.*, 2013) that there are no surviving specimens at ORT that correspond exactly to the illustrations and, therefore, that the existing ones cannot be considered as holotypes is not valid, it is irrelevant. Sventenius does not say that his illustrations are exact copies of the types but that they are in the manner, style or form of the holotypes (*factae ratione habita holotyporum*). In any case, a lost or missing previously designated holotype specimen is not a reason for invalidating a name!

## EXAMPLES OF INCORRECT NAME CHANGES

*Androcymbium psammophilum* Svent. In the case of *Androcymbium psammophilum* the original protologue states “*Locus originis: Herbania (Insula Fuerteventura vocata): regione orientale prope pagum Corralejos, ubi datur sat abundans. Lecta cum paucis floribus et abundante seminifera die 1 Aprilis 1956*”. In this case Article 37 is complied with in full as Sventenius cited a single type locality, a collection with its date and, in the preface indicated the existence of a holotype. The renaming of this species as *Androcymbium fuerteventurae* Kunkel & Sunding (Kunkel, 1969) simply created a superfluous and, therefore, illegitimate synonym.

*Sonchus gonzalez-padronii* Svent. In the case of *Sonchus gonzalez-padronii* Svent., a name rejected by Boulos (1967b) and replaced by the name *Sonchus gomerensis* Boulos, Sventenius again cites an original locality and also a later collection from another second locality in the protologue of the species. The correct interpretation under the rules of the International Code is that the first specimen cited “*Locus originis: Junonia Minor (Insula Gomera) in regione australe; in profunda valle “Marandón” vulgo dicta inter 600-800 m. supra mare, ubi sat pauca est, die 6 Octobris 1956 cum fructo lecta fuit:*” should be considered to be the holotype of the species even if it does not correspond to the illustration and is a vegetative specimen [Art.7.2 The nomenclatural type is not necessarily the most typical or representative element of a taxon]. According to Mejias *et al.* a specimen with the relevant date and locality actually exists in the Orotava herbarium. The second specimen cited and clearly distinguished as a later collection “*postea in loco dicto “Barranco Ancones” supra oppidulum Valle Gran Rey ad 600 m. altitudinis cum flore et fructu die 4 Septembris 1957 legi*” is a paratype, that is a specimen cited in the protologue that is neither the holotype nor an isotype. The name *Sonchus gomerensis* Boulos is simply a later superfluous and therefore illegitimate synonym.

*Sonchus filifolius* Svent: *Sonchus filifolius* Svent. was renamed *Taeckholmia canariensis* by Boulos (1967a). Sventenius cites his original or type locality and specimen “*Locus originis: Junonia Minor (Insula Gomera dicta), in anfractu vulgo dicto “Marandón” ad 600m. supra mare, ubi legi in completa fructificatione et cum paucis floribus die 6 Octobris 1956:*” This collection should be considered to be the holotype. Two other collections “*postea in magno cavo Argaga ad 150 m. alt. Die 31 Augusto et in Valle Gran Rey juxta locum vulgo dictum “Roque de Guadá” ad 600 m. Altitudinis die 4 Septembris 1957 in plena floratione legi*” are both paratypes. There is a specimen at ORT (ORT 5498), which must be considered to be the holotype and though it was originally apparently identified as “*Sonchs regis-jubae?*” this

previous erroneous identification is irrelevant to the typification. How many new species have been published because a taxonomist recognised that a herbarium specimen was misidentified? The procedure adopted by the later authors is wrong. The names *Taeckholmia canariensis* Boulos and *Sonchus sventenii* U. & A. Reifenger are superfluous synonyms (illegitimate names).

*Sonchus ortunoi* Svent: Mejias et al. (2013) consider the name *Sonchus ortunoi* Svent. to be an invalid name as the specimen with the correct details of date and locality does not “match the picture in the *Additamentum...*”. Sventenius cites for his *locus originis* a specimen collected on the 6th of October 1956 (“*Junonia Minor (etiam Gomera dicta) in regione austro-occidentale: in profunde valle vulgo dicta “Marandón” versus 600 m supra mare, ubi legi die 6 Octubris 1956*”) and then another specimen collected at a later date in a different locality. The first specimen (ORT 9031) exists in the Orotava herbarium and is the holotype and the second, ORT 5490, from Argaga is a paratype and if we follow my previous arguments there was no need for Mejias et al. to describe *Sonchus ortunoi* as a new species as it was validly published by Sventenius. (*S. ortunoi* Svent. ex Mejias et al. is simply an illegitimate superfluous synonym of *Sonchus ortunoi* Sventenius.). Also, as Mejias et al. (2013) state that “it is, therefore premature to make conclusive decision” on the taxonomic identity of *Sonchus ortunoi*, they also infringe Article 36.1 “a name is not validly published if it is merely proposed in anticipation of the future acceptance of the taxon concerned or of a circumscription, position or rank of the taxon” If as Mejias et al. say they are basically accepting *Sonchus ortunoi* Mejias et al., *sp.nov.* as it might turn out to be a good species when they have completed their studies then their publication of the name is invalid.

*Sonchus capillaris* Svent: *Sonchus capillaris* Svent. is wrongly typified by both Boulos (1967a) and Mejias et al. (2013) because two specimens of the original collection exist at Orotava and one of them must be considered as the holotype, (ORT 9024 is in excellent condition) and the specimen from the same collection in the Cairo herbarium cited as a lectotype by Boulos can only be considered as an isotype because Sventenius clearly states that his holotypes are at Orotava and his designation of a holotype, according to the Code of Nomenclature, is final. The argument put forward by Mejias et al. that the specimens at Orotava do not exactly match the illustration is totally irrelevant. In this case there was no need to designate a lectotype!

*Micromeria pineolens* Svent: Perez de Paz (1978) lectotypified this species using a specimen in the Orotava (ORT) herbarium: “*Micromeria pineolens* Svent. *Original: Tamadaba 21-IV-1958*”. This specimen is not, however, mentioned in the original protologue of the species. Perez de Paz himself actually cites the type specimen

included in the protologue by Sventenius, collected on the 25th of September 1948 at the "*Locus originis Canaria Magna (Gran Canaria dicta) in montibus Goyedrae, ubi die 25 Septembris 1948 cum fructu lecta fuit*" as existing in the Orotava Herbarium (ORT 6500!) and this must be considered to be Sventenius' holotype making the lectotypification unnecessary. The other specimens cited in the protologue: *in loco dicto Tamadaba in pineto, ubi legi cum flore et fructu die 19 Julii 1949. and Ibidem: 19 Septembris 1951* are paratypes.

## CONCLUSION

In order to stabilize the nomenclature, and respect the excellent pioneering work carried out in the Canary Islands by Sventenius, and avoid further changes to names in common use in the Canarian flora, the holotypes of names designated by Sventenius in both the *Additamentum ad Floram Canariensem and Plantae macaronesienses novae vel minus cognitae* should be accepted and the names considered to be validly published. If these holotypes cannot be currently traced this does not invalidate the names and a lectotype [Art.9.2] should be designated from amongst the paratype specimens cited in the protologue. If no suitable lectotype can be found then a neotype should be designated [Art. 9.7]. It would be perfectly correct to use the illustrations in the *Additamentum ad Floram Canariensem* as neotypes if necessary. In no single case is it necessary or even legal under the Code of Nomenclature to change the names originally given by Sventenius.

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