

Notes on and lectotypification of Augusto Weberbauer's collections of Peruvian Ericaceae

Notas sobre y lectotipificaciones de las colecciones de Augusto Weberbauer de Ericaceae peruanas

James L. Luteyn¹, Edgardo M. Ortiz² and Blanca León³

1 Institute of Systematic Botany, The New York Botanical Garden, Bronx, NY 10458-5126, U.S.A.

2 Herbarium Arequipense (HUSA), Universidad Nacional de San Agustín de Arequipa, Peru.

3 Plant Resources Center, Herbarium, University of Texas at Austin, Austin, Texas 78712, U.S.A.
Email Blanca León:
blanca.leon@mail.utexas.edu

Abstract

The Ericaceae collections of Augusto Weberbauer from Peru are documented as 108 in number, of which 48 are currently located at MOL. Of these Weberbauer Ericaceae collections, 18 at MOL, 7 at NY, 2 at G, 2 at US, and 1 at F are herein newly designated as lectotypes.

Keywords: Ericaceae, Peru, Weberbauer, lectotypification.

Resumen

Se documenta las 108 colecciones de Ericaceae realizadas por Augusto Weberbauer en el Perú, 48 de las cuales están depositadas en MOL. Del total de estas Ericaceae recolectadas por Weberbauer, se designan aquí como lectotipos 18 colecciones en MOL, 7 en NY, 2 en G, 2 en US y 1 en F.

Palabras claves: Ericaceae, Perú, Weberbauer, lectotipificación.

Presentado: 14/09/2007
Aceptado: 28/12/2007
Publicado online: 21/07/2008

Introduction

Among botanists and explorers of the 20th century in tropical South America, Augusto Weberbauer is clearly one of the most renowned, thanks to his collections and publications about the vegetation and flora of Peru (Weberbauer, 1911, 1936, 1945). Weberbauer arrived in Peru in November of 1901, and over a period of approximately 35 years (1901-1905, 1908-1939) collected over 8000 plant specimens (Velarde, 1968), almost one-fifth of which were recognized as new to science.

Weberbauer's collections were mostly described by botanists at Berlin-Dahlem (B), where his main collection was sent, in addition to duplicates distributed to American and other European institutions, including to the herbarium of the Museum of Natural History (WRS�) in his city of birth, Breslau (Wrocław), presently located in Poland (Velarde, 1968). Most of his collections at Berlin were destroyed during World War II (WWII), and many present-day botanists do not realize that a substantial set of his collections is currently kept in the Weberbauer Herbarium (MOL) of the Universidad Nacional Agraria La Molina, in Lima, Peru, with a few collections held at Herbarium San Marcos (USM) of the Universidad Nacional Mayor de San Marcos, also in Lima. Unfortunately, some lectotypifications and neotypifications have even left out those of his specimens kept in Peru.

The type legacy of Weberbauer in Peru was partially accounted for by Velarde (1968, 1969), who as discussed by León et al. (2006), involuntarily lectotypified some names using duplicates kept at the MOL herbarium. Velarde's papers followed the arrangement of Engler's classification system, but only listed a total of 700 names for several families (except those in the subclass Sympetalae), and thus did not include the Ericaceae. However, thanks to the recent cataloguing of his complete collection at MOL (see León et al., 2006); it is possible to clarify both nomenclature and geographical data.

The Ericaceae are one of the most conspicuous families in the Andean flora, and thus Weberbauer mentioned several species as important elements of the montane forest flora community. He (Weberbauer, 1911, 1945) also included illustrations of some taxa probably based on his own collections vouchered at MOL.

As documented in this paper, a total of 108 Weberbauer collection numbers are known to be Ericaceae, of which 48 are currently found at MOL; these are listed below. Based on our herbarium search, a total of 49 species of Ericaceae have had their types based on Weberbauer collections and, theoretically, duplicates of these may have been deposited at MOL. Of these potential 49 Ericaceae type collections, however, only 18 have been located at MOL and are herein newly designated lectotypes or isotypes. In addition to these 18 newly designated Weberbauer type collection numbers at MOL, 11 more Weberbauer lectotypes or isotypes are herein designated at F (1), G (2), NY (7), and US (1).

Ericaceae collected by Weberbauer

The following list gives all the known Weberbauer collection numbers of Ericaceae based on literature reports and extant herbarium collections. Those numbers in **boldface italics** have been used as the bases for types; those numbers with an additional **boldface asterisk (*)** in front of them have been designated as lectotypes (or isolectotypes) at MOL. The scientific name, following the Weberbauer collection number, is the identity given to the original collection. Two isotypes have also been located at the herbarium in the Museo de Historia Natural of the Universidad Nacional Mayor de San Marcos (USM) in Lima. [Abbreviations used in this paper: F neg.= The Field Museum (Chicago) J. F. Macbride type photograph negative series number; ACS neg.= New York Botanical Garden A. C. Smith type photograph negative series number; JLL= James L. Luteyn, EM= Edgardo M. Ortiz.]

- 412 *Vaccinium floribundum* Kunth – This Weberbauer collection was found at USM (without a bar code number), but is not present at MOL. The determination was verified by EM in 2007.
- 508 *Gaultheria* sp. – This Weberbauer collection number has not been found in any Peruvian herbarium or elsewhere, and its identity is unknown. It was cited by Weberbauer (1945: 567).
- 509 Ericaceae – Luteyn (1995b) annotated this Weberbauer collection number as *Gaultheria reticulata* Kunth. It is not present at MOL nor at USM. Weberbauer (1945)

- listed this collection number as an unknown *Euphorbia* (Euphorbiaceae).
- 513 *Gaultheria* sp. – This Weberbauer collection number has not been found in any Peruvian herbarium or elsewhere and its identity is unknown. It was cited by Weberbauer (1945: 567).
- 594 *Cavendishia pubescens* (Kunth) Hemsley – Luteyn (1983) annotated duplicates of this Weberbauer collection number as *C. pubescens*. The duplicate sheet at MOL bears their bar code no. 3694 and was annotated by Luteyn as *C. pubescens* in 2006. Weberbauer (1945: p. 519, fig. 56) may have used this collection as the basis for his illustration of the species.
- 636 *Cavendishia bechmanniana* Hoerold – The holotype at B was destroyed during WWII, but is represented in photo by F neg. 4654 and ACS neg. 29. There are no known isotypes. The lectotype designated by Luteyn (1983) is the photo of the B holotype specimen. Luteyn (1983) recognized this collection number as *C. bracteata* (Ruiz & Pavón ex J. St.-Hil.) Hoerold.
- 659 *Bejaria sandiensis* Mansf. & Sleumer – The holotype at B was destroyed during WWII and there are no known isotypes or photos. Clemants (1995), who did not see any specimens cited in the protologue, placed this taxon in his “Doubtful Names and Excluded Taxa” along with the comment that he felt it should be placed as a synonym of *B. aestuans* L.
- 675 *Gaultheria secunda* J. Rémy – The duplicate sheet of this Weberbauer collection number at MOL bears their bar code no. 3656 and was annotated by Luteyn in 2006 as *Gaultheria vaccinioides* Wedd.
- 684 *Orthaea weberbauerii* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4732 and ACS neg. 31. This number is not present at any Peruvian herbarium. There is, however, a good isotype sheet at G and that sheet is herein designated as the lectotype of *O. weberbauerii*. Fragments at NY ex the B holotype are herein designated as an isotype.
- 739 *Gaultheria* sp. – This Weberbauer collection number has not been found in any Peruvian herbarium or elsewhere and its identity is unknown. It was cited by Weberbauer (1945: 571).
- 740 *Ceratostema weberbauerii* Hoerold – The holotype sheet at B was destroyed during WWII and there are no known isotypes or photos. Fragments at NY ex the B holotype are herein designated as the lectotype of *C. weberbauerii* [= *Siphonandra elliptica* (Ruiz & Pavón ex G. Don) Klotzsch].
- *742 *Ceratostema graebnerianum* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4645 and ACS neg. 33. The sheet at MOL bearing their bar code no. 3681 was annotated as lectotype on 19 June 2006 and is herein designated as such. Fragments at NY ex the B holotype are herein designated as an isotype of *C. graebnerianum* [= *Demosthenesia mandoni* (Britton) A. C. Sm.].
- 742a *Ceratostema pilgerianum* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4649 and ACS neg. 34. This number is not present at MOL. Fragments at NY ex the B holotype are herein designated as the lectotype of *C. pilgerianum* [= *Demosthenesia mandoni* (Britton) A. C. Sm.].
- 856 *Gaultheria* sp. – The duplicate sheet of this Weberbauer collection number at MOL bears their bar code no. 3657 and was recognized by Luteyn in 2006 as *Gaultheria vaccinioides* Wedd. It was cited by Weberbauer (1945: 565).
- 889 *Ceratostema sanguineum* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by ACS neg. 55. This number is not present at MOL. Fragments at NY ex the B holotype are herein designated as the lectotype of *C. sanguineum* [= *Demosthenesia mandoni* (Britton) A. C. Sm.].
- 892 *Gaultheria* sp. – This Weberbauer collection number has not been found in any Peruvian herbarium or elsewhere, and its identity is unknown. It was cited by Weberbauer (1945: 567).
- 911 *Pernettya prostrata* (Cav.) DC. – Luteyn (1995a) recognized this Weberbauer collection number as *P. prostrata* (Cav.) DC. The specimen at MOL bears their bar code no. 3581.
- 975 *Pernettya prostrata* (Cav.) DC. – Luteyn (1995a) annotated this Weberbauer collection number as *P. prostrata* (Cav.) DC. The specimen at MOL bears their bar code no. 3582.
- 1081 *Cavendishia peruviana* Hoerold – The holotype at B was destroyed during WWII and there are no known isotypes. The lectotype (designated by Luteyn, 1983) is the photo of the B holotype specimen represented by ACS neg. 13-A. The photo shows two separate twigs of which the larger-leaved (lower right-hand side) agrees with the protologue and that piece was designated as lectotype. Luteyn (1983) recognized this collection number as *C. bracteata* (Ruiz & Pavón ex J. St.-Hil.) Hoerold.
- 1081a *Cavendishia pubescens* (Kunth) Hemsley var. *microphylla* Hoerold – The holotype at B was destroyed during WWII and there are no known isotypes. The lectotype (designated by Luteyn, 1983) is the NY sheet with fragments ex B attached to a photo of the B holotype specimen represented by ACS neg. 15. Luteyn (1983) annotated this collection number as *C. bracteata* (Ruiz & Pavón ex J. St.-Hil.) Hoerold.
- 1090 *Gaultheria* sp. – This Weberbauer collection number has not been found in any Peruvian herbarium or elsewhere, and its identity is unknown. It was cited by Weberbauer (1945: 573).
- 1150 *Gaultheria* sp. – This Weberbauer collection number has not been found in any Peruvian herbarium or elsewhere, and its identity is unknown. It was cited by Weberbauer (1945: 573).
- 1159 *Psammisia urbaniana* Hoerold – The holotype sheet at B was destroyed during WWII. There are no known isotypes, but it is represented in photo by F neg. 4704

and ACS neg. 156. Fragments at NY ex the B holotype are herein designated as the lectotype of *P. urbaniana*. Luteyn recently re-annotated this collection number as *P. coarctata* (Ruiz & Pavón ex G. Don) A. C. Sm.

- *1770** *Cavendishia ulbrichiana* Hoerold – The holotype at B was destroyed during WWII. Luteyn (1983) designated the photo of the B holotype specimen, represented by ACS neg. 19, as the lectotype. However, the discovery of a duplicate sheet of *Weberbauer 1770* at MOL means that the actual sheet at MOL, bearing their bar code no. 3567, is herein designated as the lectotype of *C. ulbrichiana*, overturning Luteyn's designation in 1983. Luteyn (1983) also annotated this collection number as *C. bracteata* (Ruiz & Pavón ex J. St.-Hil.) Hoerold, and this was verified by EO in 2006.
- 1971 *Bejaria glauca* Bonpl. – Clemants (1995) annotated this Weberbauer collection number as *B. aestuans* L. The duplicate at MOL bearing their bar code no. 3511 has been annotated by EO as *B. aestuans*.
- 1972** *Cavendishia kraenzliniana* Hoerold – The holotype at B was destroyed during WWII and there are no known isotypes. This number is not present at any Peruvian herbarium. The lectotype (designated by Luteyn, 1983) is the photo of the B holotype specimen represented by F neg. 4669 and ACS neg. 178. Luteyn (1983) also annotated this collection number as *C. punctata* (Ruiz & Pavón ex J. St.-Hil.) Sleumer.
- 2055** *Thibaudia engleriana* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4626 and ACS neg. 131. This number is not present at any Peruvian herbarium. This species is restricted to Peru (León, 2007).
- *2071** *Thibaudia apophysata* Hoerold – The holotype sheet at B was destroyed during WWII, but it is represented in photo by F neg. 4623 and ACS neg. 130. The MOL isotype sheet with their bar code no. 3576 is herein designated as the lectotype of *T. apophysata*. The fragment at NY ex the B holotype is herein designated as an isotype. This taxon is restricted to Peru (León, 2007).
- 2077 Ericaceae – Luteyn (1995b) recognized this Weberbauer collection number as *Gaultheria tomentosa* Kunth. The duplicate sheet at MOL bears their bar code no. 3660 and was annotated by Luteyn in 2006. This collection may have been the basis for the illustration on p. 523 of *El Mundo Vegetal* (Weberbauer, 1945).
- *2079** *Disterigma weberbaueri* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4643. There are fragments ex the B holotype at both F and NY. A full and complete isotype of this collection number is at MOL bearing their bar code no. 3673, and it is herein designated as the lectotype of *D. weberbaueri* by Dr. Paola Pedraza (former New York Botanical Garden graduate student who monographed *Disterigma*) [= *D. empetrifolium* (Kunth) Drude].
- 2086 *Gaultheria glomerata* (Cav.) Sleumer – The sheet of *Weberbauer 2086* at G (with fragment at L) was mistakenly determined by Sleumer as an isotype of *G. apiculata*; it is actually *G. glomerata*. The duplicate sheet of *Weberbauer 2086* at MOL bearing their bar code no. 3659 was annotated by Luteyn in 2006 as *Gaultheria glomerata*.
- 2122** *Sophoclesia weberbaueri* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4730. This number is not present at any Peruvian herbarium. Fragments at NY ex the B holotype are herein designated as the lectotype of *Soph. weberbaueri*. The taxonomy of this species is uncertain, and Luteyn recognized this collection number as *Sphyrropermum buxifolium* – *Sph. cordifolium* “complex”.
- *2143** *Gaultheria glandulosissima* Sleumer – The holotype at B was destroyed during WWII, but is represented in photo by F neg. 28926 of the isotype at G. In 1952, the isotype sheet at MOL (now with their bar code no. 3661) was annotated and photographed (un-numbered) by Sleumer as an isotype of *G. glandulosissima*; there is a print of this photo at NY. The isotype at G was designated lectotype by Luteyn (1995b) and fragments at US as isolectotype. On 19 June 2006, Luteyn annotated the MOL isotype as duplicate of the lectotype and it is herein designated as such. This collection number is recognized by Luteyn (1995b) as *Gaultheria erecta* Vent.
- 2146 *Gaultheria* sp. – The duplicate sheet of this Weberbauer collection number at MOL bears their bar code no. 3667 and was determined as *G. glabra* DC. In 2007, EO updated the determination as *G. reticulata* Kunth. This specimen is cited by Weberbauer (1945: 542).
- *2151** *Psammisia weberbaueri* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4705 and ACS neg. 157. On 19 June 2006, Luteyn annotated the sheet at MOL with their bar code no. 3591 as lectotype of *P. weberbaueri* and it is herein designated as such. Another duplicate sheet at MOL with their bar code no. 3592 has just two leaves, but represents an isotype. The fragments at NY ex the B holotype are also herein designated as an isotype. Luteyn recognizes this collection number as *P. coarctata* (Ruiz & Pavón ex G. Don) A. C. Sm.
- 2202** *Ceratostema urbanianum* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by ACS neg. 50. This number is not present at any Peruvian herbarium. Fragments at NY ex the B holotype are herein designated as the lectotype of *C. urbanianum* [= *Pellegrinia grandiflora* Ruiz & Pavón ex G. Don] Sleumer].
- 2213 *Disterigma empetrifolium* (Kunth) Nied. [Junín. Tarma: W of Huacapistana, 3100-3500 m]. This Weberbauer collection was seen at G, but is not found at any Peruvian herbarium.
- 2215 *Vaccinium floribundum* Kunth – The duplicate sheet of this Weberbauer collection number at MOL bears their bar code no. 3574 and was determined by Sleumer in 1952 as *V. floribundum*.
- 2245 *Gaultheria* sp. – Luteyn (1995b) recognized this Weberbauer collection number as *G. vaccinioides* Wedd. The sheet at MOL bears their bar code no. 3658. It was cited by Weberbauer (1945: 547).

- 2374 *Pernettya pentlandii* DC. – Luteyn (1995a) recognized this Weberbauer collection number as *P. prostrata* (Cav.) DC. It is not present at any Peruvian herbarium.
- 2436** *Thibaudia graebneriana* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4629 and ACS neg. 135. This number is not present at any Peruvian herbarium [= *T. diphylla* Dunal].
- 2441 *Vaccinium crenatum* (G. Don) Sleumer – The sheet at B was destroyed during WWII, but was cited by Sleumer (1936). This number is not present at any Peruvian herbarium.
- 2442 *Cavendishia ulbrichiana* Hoerold – Luteyn (1983) recognized this Weberbauer collection number as *Cavendishia bracteata* (Ruiz & Pavón ex J. St.-Hil.) Hoerold. The sheet at MOL bears their bar code no. 3696 and according to Ortiz belongs also in *C. bracteata*.
- 2505** *Ceratostema coccineum* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4644 and ACS neg. 35. This number is not present at any Peruvian herbarium. Fragments at NY ex the B holotype are herein designated as the lectotype of *C. coccineum* [= *Pellegrinia coccinea* (Hoerold) Sleumer].
- 2508 *Gaultheria* sp. – This Weberbauer collection number has not been found in any Peruvian herbarium or elsewhere, and its identity is unknown. It was cited by Weberbauer (1945: 544).
- 2770 *Pernettya* sp. – Luteyn (1995a) recognized this Weberbauer collection number as *P. prostrata* (Cav.) DC. It is not present at any Peruvian herbarium. It was cited by Weberbauer (1945: 351).
- 3237 *Gaultheria* sp. – This Weberbauer collection number has not been found in any Peruvian herbarium or elsewhere, and its identity is unknown. It was cited by Weberbauer (1945: 361).
- 3274 *Pernettya pentlandii* DC. – Luteyn (1995a) recognized this Weberbauer collection number as *P. prostrata* (Cav.) DC. The sheet at MOL bears their bar code no. 3583 and was also verified by EO in 2005 as *P. prostrata*.
- 3358** *Thibaudia cardiophylla* Sleumer – The holotype sheet at B was destroyed during WWII and there are no known isotypes. Sleumer (1934) compared it to *T. engleriana* Hoerold, but no other collections are known and it does not compare with anything we know.
- *3370** *Gaultheria bicolor* Sleumer – The holotype sheet at B was destroyed during WWII. The isotype at MOL bearing their bar code no. 3569 is herein designated as lectotype of *G. bicolor*. Luteyn (1995b) recognized this specimen as *G. bracteata* (Cav.) G. Don, which was verified by EO in 2005 on the basis of the MOL sheet.
- 3374** *Ceratostema harmsianum* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4646 and ACS neg. 32. There are no other isotypes known [= *Pellegrinia harmsiana* (Hoerold) Sleumer].
- 3377 *Gaultheria* sp. – This Weberbauer collection number has not been found in any Peruvian herbarium or elsewhere, and its identity is unknown. It was cited by Weberbauer (1945: 534).
- 3379 *Gaultheria* sp. – Luteyn (1995b) recognized this Weberbauer specimen as *G. vaccinioides* Wedd. Ortiz (in 2005) annotated the collection at MOL also as *G. vaccinioides*. This specimen bears their bar code no. 3662. It was cited by Weberbauer (1945: 534).
- *3402** *Gaultheria weberbaueriana* Sleumer – The holotype sheet at B was destroyed during WWII, but is represented in photo at NY by a print of the MOL isotype. Luteyn (1995b: 476) designated the MOL sheet as lectotype based on the photo he had in his possession (at NY) given to him in 1978 and presumably taken by H. O. Sleumer in 1952. It was not until 19 June 2006 that Luteyn actually annotated the sheet at MOL with their bar code no. 3663 as lectotype of *G. weberbaueriana*, and it is herein designated as such. Luteyn (1995b) recognized this collection number as *G. erecta* Vent.
- 3419 *Bejaria hispida* Poepp. & Endl. – Clemants (1995) recognized this Weberbauer specimen as *B. aestuans* L. The collection at MOL bears their bar code no 3502 and was annotated by EO (in 2005) as *B. aestuans*.
- 3466 *Bejaria glauca* Kunth – Clemants (1995) recognized this Weberbauer specimen as *B. aestuans* L. The collection at MOL bears their bar code no 3509 and was annotated by EO (in 2005) as *B. aestuans*.
- *3510** *Psammisia engleriana* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4687 and ACS neg. 144. On 19 June 2006, Luteyn annotated the sheet at MOL bearing their bar code no. 3590 as lectotype of *P. engleriana* and it is herein designated as such. Fragments at F and NY ex the B holotype are herein designated as isotypes. Luteyn recognizes this specimen as *P. coarctata* (Ruiz & Pavón ex G. Don) A. C. Sm.
- 3518 *Cavendishia urbaniana* Hoerold – Weberbauer 3518 is the collection number given for the type of *C. urbaniana* Hoerold as stated in the protologue and as evidenced by a photo of the B holotype (F neg. 4680 and ACS neg. 18). That species was synonymized under *C. nobilis* Lindl. var. *nobilis* by Luteyn (1983). Although a duplicate sheet of Weberbauer 3518 exists at MOL with their bar code no. 3695, a careful examination shows that the actual specimen at MOL is, in reality, a collection of *C. bracteata* not *C. nobilis*, so the collection 3518 in this herbarium should not be considered a lectotype.
- *3519** *Gaultheria opaca* Sleumer – The holotype sheet at B was destroyed during WWII, but is represented in photo at NY by an un-numbered print of the isotype sheet at MOL given to JLL in 1978 and presumably taken by H. O. Sleumer in 1952. The isotype sheet at MOL with their bar code no. 3664 was annotated as the lectotype of *G. opaca* by JLL on 19 June 2006 and is herein designated as such. Luteyn (1995b) recognized this collection number as *G. erecta* Vent.
- 3542** *Thibaudia harmsiana* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4630 and ACS neg. 136. Fragments of the holotype and a photograph are present at NY and are

- herein designated lectotype of *T. harmsiana*. This number is not present at any Peruvian herbarium. The species is restricted to Peru (León, 2007).
- 3546 *Disterigma humboldtii* (Klotzsch) Niedenzu – The duplicate sheet of this Weberbauer collection number at MOL bears their bar code no. 3674. This collection might have been used for the illustration on p. 521 in *El Mundo Vegetal* (Weberbauer, 1945).
- *4014 *Bejaria weberbaueriana* Mansf. & Sleumer – The holotype sheet at B was destroyed during WWII, but is represented in photo by the F neg. 28917 of the G isotype. Clemants (1995) designated the isotype at G as lectotype, citing also a fragment at F ex the B holotype. Clemants (1995) recognized this collection number as *B. resinosa* Mutis ex L.f. At MOL there is also an isotype bearing their bar code no. 3499 and the annotation “*B. caxamarcensis* H.B.K.” The MOL sheet was annotated as *B. resinosa* by EO in 2007, and is herein designated as an isotype. Weberbauer (1945: p. 500, fig. 53) may have used this collection as the basis for his illustration of the species.
- 4283 Ericaceae – This Weberbauer collection number was located and photographed at MOL by EO in 2007; it bears their bar code no. 3568. EO determined this number as *Vaccinium didymanthum* Dunal on account of its crenate leaves and tubular corollas. A duplicate was located at G by JLL in 2007 and also annotated as the same taxon.
- 4300 Ericaceae – This Weberbauer collection number at MOL bears their bar code no. 3508 and was identified as *Bejaria glauca* var. *tomentella* Mansf. & Sleumer. Clemants (1995) recognized the MOL duplicate as *B. mathewsii* Fielding & Gardner, and this was confirmed by EO in 2007.
- *4339 *Thibaudia weberbaueri* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4638 and ACS neg. 140. The isotype sheet at MOL bearing their bar code no. 3575 was annotated as the lectotype of *T. weberbaueri* by JLL and EO in 2007 and is herein designated as such. In 1932, A. C. Smith synonymized the name under *T. angustifolia* Hook.
- 4347 *Vaccinium pseudocaracasenum* Sleumer – The holotype sheet at B was destroyed during WWII and there are no known isotypes. This number is not present at any Peruvian herbarium. Fragments at US ex the B holotype do exist, however, and are herein designated lectotype of *V. pseudocaracasenum*.
- *4362 *Leucothoe andina* Sleumer – The sheet at MOL bears their bar code no. 3549 and is herein designated as the lectotype of *Leucothoe andina*. This collection number at MOL was annotated by Sleumer in 1952. There is also an isolectotype fragment at NY, and a photo of the MOL sheet taken by Sleumer (in 1952) and given to Luteyn. Judd (1995) recognized this collection number as *Agarista albiflora* (B. Fedtsch. & Basil.) Judd.
- *4374 *Thibaudia tomentosa* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4635 and ACS neg. 139. The isotype sheet at MOL with their bar code no. 3577 was annotated by JLL and EO in 2007 and is herein designated as the lectotype of *T. tomentosa*.
- 4449 *Thibaudia urbaniana* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4637 and ACS neg. 141. This number is not present at any Peruvian herbarium. The species is restricted to Peru (León, 2007).
- 4455 *Semiramisia weberbauerii* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4735 and ACS neg. 28. There are no known isotypes. Luteyn recognizes this collection number as *S. speciosa* (Benth.) Klotzsch.
- 4612 *Bejaria sprucei* Meisn. – The duplicate sheet of this Weberbauer collection number at MOL bears their bar code no. 3500 and was verified by EO in 2007.
- 4616 *Gaultheria* sp. – This Weberbauer collection number at MOL bears their bar code no. 3683 and was annotated by Luteyn (in 2006) as *Gaultheria erecta* Vent. This specimen was cited by Weberbauer (1945: 586).
- 4709 Ericaceae – Clemants (1995) annotated this Weberbauer collection number as *Bejaria aestuans* L. It is not present at any Peruvian herbarium.
- *4739 *Cavendishia weberbaueri* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by ACS neg. 118. The isotype at MOL bears their bar code no. 3697 and was annotated as the lectotype of *C. weberbaueri* by EO in 2007; it is herein designated as such. In addition, there are fragments at NY ex the B holotype, and this sheet is considered an isotype. Luteyn (1983) recognized this collection number as *C. tarapotana* (Meisn.) Benth. & Hook.f. var. *tarapotana*.
- *4753 *Orthaea engleriana* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by F neg. 4731 and ACS neg. 30. Two isotypes are known to exist. The isotype at MOL bearing their bar code no. 3588 was annotated as the lectotype of *O. engleriana* by EO in 2007 and is herein designated as such. Another isotype at G was seen by JLL in 2007. Fragments at F and NY both ex the B holotype are herein designated as isotypes. The species was recognized as *O. abbreviata* Drake by Luteyn in 1995.
- 4949 *Vaccinium floribundum* Kunth – The sheet at B was destroyed during WWII, but was cited by Sleumer (1936). This number is not present at any Peruvian herbarium.
- 4968 *Gaultheria* sp. – This Weberbauer collection number has not been found in any Peruvian herbarium or elsewhere, and its identity is unknown. It was cited by Weberbauer (1945: 557).
- 4974 *Ceratostema microphyllum* Hoerold – The holotype sheet at B was destroyed during WWII, but is represented in photo by ACS neg. 54. This number is not present at any Peruvian herbarium. The isotype sheet at G is herein designated as the lectotype of *C. microphyllum*. The fragment at NY ex the B holotype is herein designated as isotype [= *Demosthenesia mandoni* (Britton) A. C. Sm.].

- 5009** *Cavendishia muschleriana* Hoerold – The holotype at B was destroyed during WWII and there are no known isotypes. The lectotype (designated by Luteyn, 1983) is the photo of the B holotype specimen represented by F neg. 4673 and ACS neg. 180. Luteyn (1983) recognized this collection number as *C. martii* (Meisn.) A. C. Sm.
- 5056 Ericaceae – Clemants (1995) annotated this Weberbauer collection number as *Bejaria aestuans* L. It is not present at any Peruvian herbarium.
- 5474 Ericaceae – Luteyn (1995a) annotated this Weberbauer collection number as *Pernettya prostrata* (Cav.) DC. It is not present at any Peruvian herbarium.
- 5564** *Pellegrinia weberbaueri* Sleumer – The holotype at B was destroyed during WWII. The isotype at US was chosen by Luteyn in 1993 and is herein designated as lectotype. This number is not present at MOL. The species is now known as *Demosthenesia pearcei* (Britton) A. C. Sm.
- 5577 *Gaultheria* sp. – Luteyn (1995b) recognized this Weberbauer collection number as *G. reticulata* Kunth. It is not present at any Peruvian herbarium.
- 5657 *Gaultheria* sp. – Luteyn (1995b) annotated this Weberbauer collection number as *G. buxifolia* Willd. var. *secunda* (J. Rémy) Luteyn. It is not present at Peruvian herbaria. It was cited by Weberbauer (1945: 553).
- 5881 Ericaceae – Clemants (1995) recognized this Weberbauer collection number as *Bejaria aestuans* L. It is not present at MOL.
- 6049 *Vaccinium polystachyum* Benth. – This Weberbauer collection number is not present at MOL, but was seen at G (ex F) [= *V. floribundum* Kunth].
- 6106** *Bejaria peruviana* Mansf. & Sleumer – The holotype at B was destroyed during WWII, but is represented in photo by NY neg. 11228 of the isotype at US. This number is not present at MOL. Clemants (1995) designated the isotype at US as the lectotype of *B. peruviana*. Isotypes are found at F and GH (= NY neg. 9604). Clemants (1995) recognized this collection number as *B. resinosa* Mutis ex L.f.
- 6120** *Macleania farinosa* Mansf. – The holotype at B was destroyed during WWII, but is represented in photo by NY neg. 9987 of the isotype at NY. This number is not present at Peruvian herbaria. Luteyn (1996) designated the NY isotype as the lectotype of *M. farinosa*. Isotypes may be found at CAS, F, GH, and US.
- 6122 Ericaceae – Luteyn (1983) recognized this Weberbauer collection number as *Cavendishia bracteata* (Ruiz & Pavón ex J. St.-Hil.) Hoerold. It is not present at any Peruvian herbarium.
- 6644 *Pellegrinia grandiflora* (Ruiz & Pavón ex G. Don) Sleumer – There are four sheets of this Weberbauer collection number at MOL bearing their bar code nos. 3675, 3676, 3677 and 3678, and one sheet at F. This specimen was recognized as *Demosthenesia spectabilis* (Rusby) A.C.Sm. by H. O. Sleumer in 1952, and confirmed by EO in 2007.
- 6649 *Sphyrospermum cordifolium* Benth. – The duplicate sheet of this Weberbauer collection number at MOL bears their bar code no. 3584. This specimen represents a taxon recognized by Luteyn as part of the *Sphyrospermum buxifolium* – *Sph. cordifolium* “complex”.
- 6683 Ericaceae – There are three duplicate sheets of this Weberbauer collection number at MOL bearing their bar code nos. 3503, 3504, and 3505. Clemants (1995) recognized this collection number as *Bejaria aestuans* L. and those sheets at MOL were also identified as such by EO in 2005.
- 6703 *Vaccinium dependens* (G. Don) Sleumer – There are two duplicate sheets of this Weberbauer collection number at MOL bearing their bar code nos. 3572 and 3573. They were determined by H. O. Sleumer in 1952 as *V. dependens*, and verified and photographed by EO in 2007.
- *6704** *Macleania multibracteata* Mansf. – The holotype at B was destroyed during WWII, but is represented in photo by ACS neg. 74. EO found and photographed two isotypes at MOL bearing their bar code nos. 3547 and 3548. The sheet with bar code no. 3548 is herein designated as the lectotype of *M. multibracteata* and the sheet with bar code no. 3547 as isotype. Luteyn (1996) recognized this collection number as *M. benthamiana* Walp.
- 6756 *Gaultheria* sp. – There are two duplicate sheets of this Weberbauer collection number at MOL bearing their bar code nos. 3687 and 3688. Luteyn (1995b) recognized this collection number as *G. erecta* Vent. Both specimens at MOL also represent this taxon as annotated in 2005 by EO. This collection number was cited by Weberbauer (1945: 540).
- *6925** *Orthaea pinnatinervia* Mansf. – The holotype sheet at B was destroyed during WWII, but is represented in photo by ACS neg. 42-2. On 19 June 2006, Luteyn annotated a sheet at MOL with their bar code no. 3544 as the lectotype of *O. pinnatinervia* and it is herein designated as such. A second duplicate sheet at MOL with their bar code no. 3545 includes an incomplete sample; however, there are other isotype sheets at F and NY, and a fragment at G.
- 6928 *Demosthenesia microphylla* Hoerold – There are two duplicate sheets of this Weberbauer collection number at MOL bearing their bar code nos. 3679 and 3680. They were both determined by H. O. Sleumer in 1952 as such. Today these samples are recognized as *D. mandoni* (Britt.) A.C.Sm. (identified and photographed by EO in 2007).
- 6929 *Siphonandra elliptica* (Ruiz & Pavón ex G. Don) Klotzsch – There are two duplicate sheets of this Weberbauer collection number at MOL bearing their bar code nos. 3586 and 3587. Their determination was verified by EO in 2007.
- 7046 *Bejaria hispida* Poepp. & Endl. – There are two duplicate sheets of this Weberbauer collection number at MOL bearing their bar code nos. 3506 and 3507. Clemants (1995) recognized this collection number as *B. sprucei* Meisn. Both sheets at MOL represent this latter species as verified by EO.

- 7144 *Bejaria caxamarcensis* Kunth – This Weberbauer number is not present at MOL. Clemants (1995) recognized this collection number as *B. mathewsii* Fielding & Gardner.
- 7154 *Thibaudia obovata* A. C. Sm. – The holotype sheet at B was destroyed during WWII, but is represented in photo by ACS neg. 94. This number is not present at Peruvian herbaria. The isotype collection at F (with F neg. 59580 and NY neg. 9626) is herein designated as the lectotype of *T. obovata*. The fragment at G ex the B holotype becomes an isotype. The species is restricted to Peru (León, 2007).
- 7521 *Gaultheria* sp. – This Weberbauer specimen is not present at any Peruvian herbarium. Luteyn (1995b) recognized this collection number as *G. buxifolia* Willd. var. *secunda* (J. Rémy) Luteyn. This specimen was cited by Weberbauer (1945: 552).
- 7526 Ericaceae – This Weberbauer specimen is not present at MOL. Luteyn (1995b) recognized this collection number as *Gaultheria vaccinioides* Wedd. This specimen was cited by Weberbauer (1945: 552).
- 7530 *Thibaudia spathulata* A. C. Sm. – The holotype sheet of this Weberbauer collection number is deposited in F and is represented in photo by ACS neg. 88. This number is not present at any Peruvian herbarium. This species is restricted to Peru (León, 2007).
- 7532 *Thibaudia laxa* A. C. Sm. – The holotype sheet of this Weberbauer collection number is deposited at F and is represented in photo by ACS neg. 90. There is an isotype at BM and fragments at L. This number is not present at MOL [= *Diogenesia laxa* (A. C. Sm.) Sleumer].
- 7543 Ericaceae – This Weberbauer collection number is not present at Peruvian herbaria. Luteyn (1995b) recognized this number as *Gaultheria erecta* Vent.
- 7549 *Gaultheria* sp. – This Weberbauer collection number is not present at any Peruvian herbarium. Luteyn (1995b) recognized this number as *Gaultheria reticulata* Kunth. This collection was cited by Weberbauer (1945: 552).
- 7816 *Cavendishia* cf. *weberbaueri* Hoerold – This Weberbauer collection number is not present at MOL. Duplicates of this number are, however, located at BM, F, NY, and US. Luteyn (1983) recognized this number as *C. tarapotana* (Meisn.) Benth. & Hook.f. var. *tarapotana*.
- 7837 Ericaceae – This Weberbauer collection number is not present at any Peruvian herbarium. Clemants (1995) recognized this number as *Bejaria aestuans* L.
- 7838 Ericaceae – This Weberbauer collection number is not present at any Peruvian herbarium. Luteyn (1995b) recognized this number as *Gaultheria erecta* Vent.
- 7851 Ericaceae – This Weberbauer collection number is not present at MOL. Luteyn (1995b) annotated this number as *Gaultheria erecta* Vent.
- s.n. (Junín: Tarma, Huacapistana, 3100-3500 m, 18 Jan 1903) – Sleumer (1934: p. 59) designated this un-numbered Weberbauer collection as the type of *Gaultheria apiculata* Sleumer. The holotype at B was destroyed during WWII and no duplicates are known. This sheet is not present at any Peruvian herbarium. Luteyn (1995b) recognized duplicates of this number as *G. erecta* Vent.
- s.n. (Junín, Hacienda Runatullo, 3500 m, 10 October 1920) – This un-numbered Weberbauer collection was found at USM with their bar code no. 11926; it is not present at MOL. It was identified as *Vaccinium floribundum* Kunth by EO in 2007.
- s.n. (Junín, Tarma, Colonia del Perené, 900-1000 m, 10 Sep 1920) *Befaria glauca* Bonpl. var. *glandulosa* Mansf. & Sleumer – This un-numbered Weberbauer collection was found at USM [the sheet bears their bar code no. 10399]. The sheet was recognized as *Bejaria aestuans* by EO in 2005. The collection number is not present at MOL.
- s.n. (Junín, Tarma, Aug 1953) *Gaultheria* sp. – This un-numbered collection attributed to Weberbauer was found at USM bearing their bar code no. 90145. It was determined as *G. erecta* Vent. by EO in 2007. Based on the date of collection and the hand-written field label, the collection does not belong to Weberbauer.

Ericaceae names mentioned in *El Mundo Vegetal* (Weberbauer, 1945)

[Current names are given in square brackets]

Bejaria Mutis ex L.f. (as “*Befaria*”) – Weberbauer mentions the species *B. glauca* H. & B. [= *B. aestuans*] (pp. 542, 555, 556, 586, 592, 603, 609), *B. hispida* Poepp. & Endl. [= *B. aestuans*] (pp. 533, 536), *B. sandiense* Mansf. & Sleumer [probably = *B. aestuans*] (p. 567), *B. sprucei* Meisn. (p. 586), and *B. weberbaueriana* Mansf. & Sleumer [= *B. resinosa* Mutis ex L.f.] (pp. 365, 450, 454, 476, 477, 500, 516) as growing in montane regions.

Cavendishia – Weberbauer mentions the species *C. beckmaniana* Hoerold [= *C. bracteata* (Ruiz & Pavón ex J. St.-Hil.) Hoerold] (p. 567), *C. bracteata* (pp. 542, 544), *C. peruviana* Hoerold [= *C. bracteata*] (p. 573), *C. pubescens* (Kunth) Hemsley (pp. 519, 567), *C. punctatifolia* (Ruiz & Pavón ex G. Don) Hoerold [= *C. punctata* (Ruiz & Pavón ex J. St.-Hil.) Sleumer] (p. 542), *C. ulei* Hoerold [= *C. bracteata*] (p. 516), *C. urbaniana* Hoerold [= *C. nobilis* Lindley var. *nobilis*] (p. 537), and *C. weberbaueri* Hoerold [= *C. tarapotana* (Meisn.) Benth. & Hook.f. var. *tarapotana*] (p. 531) as growing in montane regions.

Ceratostema – Weberbauer (1945) may have used one of his collections as the basis for his illustration of *Ceratostema mandoni* Britton [= *Demosthenesia mandoni* (Britton) A.C.Sm.]. No collection number was cited in his book, although he does mention the species as growing between 3300 to 3700 m in the mountains above the valley of the Río Masamerich (affluent of the Pangoa). His illustration of *C. mandoni* in fig. 60 (p. 524) is not of that species, but is actually *Demosthenesia spectabilis* (Rusby) A. C. Sm. Weberbauer mentions the species *C. buxifolium* Fielding & Gardner [= *D. buxifolia* (Fielding & Gardner) A.C.Sm.] (p. 546), *C. coccineum* Hoerold [= *Pellegrinia coccinea* (Hoerold) Sleumer] (p. 545), *C. graebnerianum* Hoerold [= *D. mandoni*] (p. 571), *C. mandoni* (pp. 524, 567, 571), *C. microphyllum* Hoerold [= *D. mandoni*] (pp. 557, 562, 563), and *C. spectabile* Rusby [= *D. spectabilis*] (p. 550) as growing in montane regions.

Disterigma – Weberbauer (1945) may have used his collection no. 3546 as the basis for his illustration of *Disterigma humboldtii*

(Klotzsch) Niedenzu (fig. 57, p. 521). He also mentions the species *D. alaternoides* (Kunth) Niedenzu (pp. 516, 573), *D. empetrifolium* (Kunth) Drude (pp. 500, 511, 547, 571), *D. humboldtii* (pp. 521, 536, 546, 573), and *D. weberbaueri* Hoerold [= *D. empetrifolium*] (p. 546) as growing in montane regions.

Gaultheria L. – Weberbauer mentions the species *G. alba* Ruiz [this name was never published, so the taxon involved is unknown] (p. 553), *G. apiculata* Sleumer [= *G. erecta* Vent.] (p. 547), *G. bicolor* Sleumer [= *G. bracteata* (Cav.) G. Don] (p. 534), *G. glandulosissima* Sleumer [= *G. erecta*] (p. 542), *G. opaca* Sleumer [= *G. erecta*] (p. 537), *G. tomentosa* Kunth [as H.B.K.] (pp. 462, 494, 523, 546), and *G. weberbaueriana* Sleumer [= *G. erecta*] (p. 536) as growing in montane regions of both Andean slopes.

Leucothoe [= *Agarista*] – Weberbauer mentions *Leucothoe andina* Sleumer [= *A. albiflora* (B.Fedtsch. & Basil.) Judd] (p. 505) as growing in the Utcubamba basin.

Macleania Hook. – Weberbauer mentions *Macleania benthamiana* Walp. (p. 538), *M. farinosa* Mansf. (p. 516), and *M. nitida* (H.B.K.) Hoerold [= *M. rupestris* (Kunth) A.C.Sm.] (p. 479) as growing in montane regions.

Orthaea – Weberbauer mentions *Orthaea engleriana* Hoerold [= *O. abbreviata* Drake] (p. 531), *O. pinnatinervia* Mansf. (pp. 562, 563), and *O. weberbaueri* Hoerold (p. 571) as growing in montane regions.

Pernettya Gaud. – Weberbauer mentions *Pernettya prostrata* Sleumer [= *P. prostrata* (Cav.) DC.] (pp. 351, 361, 388, 397, 406, 418, 544, 547, 565) as growing in montane regions.

Psammisia Klotzsch – Weberbauer mentions *Psammisia coarctata* (Ruiz & Pavón ex G. Don) A. C. Sm. (pp. 537, 542, 573) as growing in montane forests of central and southern Peru.

Semiramisia – Weberbauer mentions *Semiramisia weberbaueri* Hoerold [= *S. speciosa* Benth.] (p. 530) as growing in montane forests west of Moyobamba.

Siphonandra – Weberbauer mentions *Siphonandra elliptica* (Ruiz & Pavón ex G. Don) Klotzsch (p. 413, 562, 571) as growing in inter Andean valleys and montane forests of southern Peru.

Sophoclesia [= *Sphyraspermum* Poepp. & Endl.] – Weberbauer mentions *Sophoclesia muscicola* Klotzsch [= *Sph. muscicola* (Hook.) A.C.Sm.] (p. 516) as growing in montane forests of the Bellavista basin.

Themistoclesia Klotzsch – Weberbauer mentions the revision of *Themistoclesia* by Sleumer (p. 79).

Thibaudia Kunth [as H. B. K.] – Weberbauer also mentions the species *Thibaudia angustifolia* Hook. (p. 505), *T. apophysata* Hoerold (p. 546), *T. cardiophylla* Sleumer (p. 534), *T. engleriana* Hoerold (p. 546), *T. harmsiana* Hoerold (p. 536), *T. laxa* A. C. Sm. (p. 552), *T. obovata* A. C. Sm. (p. 527), *T. ovata* (Hook. f.) Hoerold [= *T. diphylla* Dunal] (p. 544), *T. spathulata* A. C. Sm. (p. 552), *T. tomentosa* Hoerold (p. 505), and *T. urbaniana* Hoerold (p. 530) as growing in montane regions.

Vaccinium L. – Weberbauer also mentions the species *Vaccinium crenatum* (G. Don) Sleumer (p. 544), *V. dependens* (G. Don) Sleumer (p. 538), *V. floribundum* Kunth (pp. 361, 413, 488, 534, 544, 547, 557, 573), and *V. pseudocaracasenum* Sleumer (p. 505) as growing in montane regions.

Acknowledgments

JLL wishes to thank the National Science Foundation for funds to travel to Peru and various herbaria in the U.S.A., Europe, and the U.K. The authors thank Graciela Vilcapoma, Curator of the La Molina Herbarium (MOL) of the Universidad Nacional Agraria La Molina (Lima, Peru), for allowing us access to collections and database. EO thanks The Field Museum (Chicago) through their Timothy Plowman Award for funds allowing him to travel to Chicago and New York.

Literature cited

- Clemants, S. E. 1995. Bejaria. Pp. 54-106. In: J. L. Luteyn, ed. Ericaceae—Part II. The Superior-Ovaried Genera (Monotropoideae, Pyroloideae, Rhododendroideae, and Vaccinioideae p.p.). Fl. Neotr. 66: iv, 1-560.
- Judd, W. S. 1995. Agarista. Pp. 295-344. In: J. L. Luteyn, ed. Ericaceae—Part II. The Superior-Ovaried Genera (Monotropoideae, Pyroloideae, Rhododendroideae, and Vaccinioideae p.p.). Fl. Neotr. 66: iv, 1-560.
- León, B. 2002. Significance of August Weberbauer's plant collecting for today's Río Abiseo National Park, northern Peru. Taxon 51: 167-170.
- León, B. 2006 [2007]. Ericaceae. In B. León, J. Roque, C. Ulloa Ulloa, N. Pitman, P. M. Jørgensen & A. Cano, eds. El Libro Rojo de las plantas endémicas del Perú. Rev. Peru Biol. Número especial 13(2): 285s-293s.
- León, B., A. Granda, J. Roque G. & G. Vilcapoma. 2006. A review of Peruvian Phoradendron (Viscaceae) species names published by Paczoski and typified by material collected by Augusto Weberbauer. Taxon 55(2): 513-514.
- Luteyn, J. L. 1983. Ericaceae—Part. I. Cavendishia. Fl. Neotrop. 35: 1-290.
- Luteyn, J. L. 1995a. Pernettya. Pp. 365-383. In: J. L. Luteyn, ed. Ericaceae—Part II. The Superior-Ovaried Genera (Monotropoideae, Pyroloideae, Rhododendroideae, and Vaccinioideae p.p.). Fl. Neotr. 66: iv, 1-560.
- Luteyn, J. L. 1995b. Gaultheria. Pp. 384-488. In: J. L. Luteyn, ed. Ericaceae—Part II. The Superior-Ovaried Genera (Monotropoideae, Pyroloideae, Rhododendroideae, and Vaccinioideae p.p.). Fl. Neotr. 66: iv, 1-560.
- Luteyn, J. L. 1996. Ericaceae. Fl. Ecuador 54: 1-404, color plates.
- Sleumer, H. O. 1934. Ericaceae americanae novae vel minus cognitae. I. Notizbl. Bot. Gart. Berlin-Dahlem 12: 119-140.
- Sleumer, H.O. 1936. Die Arten der Gattung Vaccinium L. in Zentral- und Südamerika. Notizbl. Bot. Gart. Berlin-Dahlem 13:111-140.
- Smith, A. C. 1932. The American Species of Thibaudieae. Contr. U.S. Natl. Herb. 28(2): 311-547.
- Velarde, O. 1968. Catálogo de isótipos de la colección de plantas peruanas de A. Weberbauer que se conserva en el herbario de la Universidad Agraria del Perú. Raymondiana 1: 89-104.
- Velarde, O. 1969. Catálogo de isótipos de la colección de plantas peruanas de A. Weberbauer que se conserva en el herbario de la Universidad Agraria del Perú. Raymondiana 2: 115-147.
- Weberbauer, A. 1911. Die Pflanzenwelt der peruanischen Anden. Pp. 1-355. In: A. Engler, & O. Drude, eds. Die Vegetation der Erde, vol. 12. Wilhelm Engelmann, Leipzig.
- Weberbauer, A. 1936. Phytogeography of the Peruvian Andes In: J.F. Macbride. Flora of Peru Part I. Publ. Field Mus. Nat. Hist., Bot. ser. 13: 18-36.
- Weberbauer, A. 1945. El Mundo Vegetal de los Andes Peruanos. Ed. 3. Ministerio de Agricultura, Lima.