

# Lectotypification of the Linnaean name *Bosea yervamora* (Amaranthaceae)

Duilio Iamónico

Laboratory of Phytogeography and Applied Geobotany, Department PDTA, University of Rome Sapienza, 00196 Rome, Italy  
d.iamonico@yahoo.it

## Abstract

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The typification of the name *Bosea yervamora* L. (Amaranthaceae) is discussed under the light of historical knowledge of Canarian plants in Linnaean herbaria. An illustration from Sloane is designated as the lectotype. A specimen from BM-SL (Sloane collection) is designated as tyyototype.

**Keywords:** *Bosea*, Canary Islands, Linnaean name, typification.

## INTRODUCTION

*Bosea* L. (Caryophyllales Juss. ex Bercht & J. Presl., Amaranthaceae Juss.) is a genus of three species with a disjunct distribution pattern: *B. yervamora* L. is endemic to the Canary Islands, *B. cypria* Boiss. ex Hook. f. is endemic to Cyprus, *B. amberstiana* (Moq.) Hook. f. from Western Hymalaya (Townsend, 1973, 1974; Hansen & Sunding, 1993; Acebes & al., 2010). From an evolutionary perspective based on molecular data, *Bosea* represents the basal branch of the Amaranthaceae (e.g., Kadereit & al., 2003; Ogundipe & Chase, 2009) and it is usually included into the subfamily Amaranthoideae Burnett (e.g., Townsend, 1993; Ogundipe & Chase, 2009). Despite intensive work developed in the last two decades, the Linnaean name *B. yervamora* appears to be yet untypified (see e.g., Jarvis, 2007: 357) and it is investigated here as part of the revision of the genus *Bosea* for the treatment of Amaranthaceae for the Euro+Med Plantbase Project.

## TYPIIFICATION

Linnaeus' protologue (1753: 225) consisted of a binomial, *Bosea yervamora*, with four synonyms cited from Linnaeus (1738: 84), Royen (1840: 223), Sloane (1725: 19) and Walther (1735: 24). The two latter authors provided illustrations that are original materials and can be considered for lectotypification.

No specimens of original material were found in the Linnaean and Linnaean-linked herbaria (see also Jarvis, 2007: 357). In the Linnaean Herbarium at LINN there is a sheet (No. 320.1) that includes the Linnaean annotation "*Yervamora HU*" (where "*HU*" means *Hortus Upsaliensis*), without the original annotation of the *Species Plantarum* number (in this case "*1*"), suggesting (see Jarvis, 2007: 41-46; 397) that this material is probably a post-1753 addition to the collection and thus not original material for the name *Bosea yervamora*.

In the Clifford Herbarium at BM there are three sheets as-

## Resumen

Iamónico, D. 2013. Lectotipificación del nombre linneano *Bosea yervamora* (Amaranthaceae). *Anales Jard. Bot. Madrid* 70(2): 187-188 (en inglés).

Se discute sobre la tipificación del nombre *Bosea yervamora* L. (Amaranthaceae) a la luz del conocimiento histórico sobre el origen de las plantas canarias conservadas en los herbarios linneanos. Se designa como lectotipo una iconografía incluida en un trabajo de Hans Sloane. Un pliego conservado en el herbario BM-SL (colección de H. Sloane) es designado como tipotipo.

**Palabras clave:** *Bosea*, Islas Canarias, nombre linneano, tipificación.

sociated with the number "84" in the protologue (synonym cited by Linnaeus, 1738), but all plants certainly refer to the genus *Chenopodium* s.l. (see e.g., Fuentes-Bazan & al., 2012) and they are identifiable as *Blitum bonus-henricus* (L.) Rchb. ≡ *Ch. bonus-henricus* L. (barcode BM000558196), *Ch. vulvaria* L. (barcode BM000558197), and *Dysphania botrys* (L.) Mosyakin & Clemants ≡ *Ch. botrys* L. [barcode BM000558198, now *Dysphania botrys* (L.) Mosyakin & Clemants]). Therefore, none of these specimens is suitable as a choice of lectotype for the name *Bosea yervamora*. A further sheet (BM 000829237) bears a plant collected by F. Masson in 1778 that is certainly identifiable as *B. yervamora* (see also Francisco-Ortega & al., 2008). On the basis of the date of collection, and the fact that this exsiccatum was sent to Linnaeus filius by F. Masson, and it is part of the Mosson's "*Plantae Canariense*" (see Francisco-Ortega & al., 2012: 404, 411), this exsiccatum were never seen by Linnaeus father, and it is not part of the original material. Finally, one specimen of *B. yervamora* collected by J. Cuninghame (ca. 1665-1709) in the island La Palma is preserved in the Herb. Sloane [vol. 189: 36(4)] (Santos-Guerra & al., 2011: 1745, 1751), but according to the authors "...none of the material collected by Cuninghame in La Palma was ever examined directly by Linnaeus...", so this exsiccatum is not part of the original material for the name *Bosea yervamora*.

Two sheets are kept in the van Royen herbarium at L. The first one is from the herbarium of Nicolaas Meerburg, who was head gardener of the Leiden Botanic Garden at the time of the Van Royens. He started collecting after Linnaeus' visit to Holland, so this specimen cannot be considered original material for the name *B. yervamora*. The second sheet bears a label with a handwriting that is not that of one of the Van Royens. Because of the reference to Linnaeus' "*Cor[ollarium] G[enerum] Pl[antarum]*", it must date after September/December 1737 when this was published. It was probably that Adriaan van Royen received this specimen from one of his



**Fig. 1.** Lectotype of the name *Bosea yervamora* L. (t. 158, f. 3 modified from Sloane 1725).

correspondents (G. Thijss, pers. com.). Because of the date of publication, and the fact that Linnaeus left Holland in 1738, it is not very likely that this exsiccatum was seen by him.

In the Sloane Herbarium at BM there is a sheet (Sloane ID: 89; barcode: BM000589120) that is linked to the drawing by Sloane (1725: t. 158, f. 3) this latter cited by Linnaeus (1753). However, this specimen (two parts of clearly a same gathering) was never studied by Linnaeus (Jarvis, 2007: 157-159) and so is ineligable as lectotype. Between the elements selected (illustrations by Walther and Sloane), since the Sloane's image is more complete, we are designating it as lectotype of this name. Consequently, the specimen from BM (Sloane collection) can be designated as syntype (see Jarvis, 2007: 22-24).

***Bosea yervamora* L.**, Sp. Pl. 1: 225 (1804). *Bosea humilis* Salisb., Prodr. Stirp. Chap. Allerton: 154 (1796), *nom. nov.*

*pro B. yervamora, nom. superfl. et illeg.* (art. 52.2 ICN – McNeill & al., 2012). *Yervamora canariensis* Kuntze, Revis. Gen. Pl. 2: 545 (1891). *Yervamora yervamora* (L.) Linding., in Abh. Auslandsk., Reihe C., Naturwiss. 8(2): 144 (1926), *nom. inval.* (art. 23.4 ICN – McNeill & al., 2012).

TYPE: [Icon] t. 158, f. 3 in Sloane 1725 (lectotype, here designated).

TYPE: Herb. Sloane: 89 (syntype, here designated, BM000589120!).

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## REFERENCES

- Acebes, J.R., León, M.C., Rodríguez, M.L., Del Arco, M.J., García-Gallo, A., Pérez-de-Paz, P.L., Rodríguez-Delgado, O., Martín, V.E. & Wildpret, W. 2010. Pteridophyta, Spermatophyta. In: Arechavaleta, M., Rodríguez, S., Zurita, N. & García, A. (eds.), *Lista de especies silvestres de Canarias. Hongos, plantas y animales terrestres*. Santa Cruz de Tenerife.
- Francisco-Ortega, J., Santos-Guerra, A., Carine, M.A. & Jarvis, C.E. 2008. Plant hunting in Macaronesia by Francis Masson: the plants sent to Linnaeus and Linnaeus filius. *Botanical Journal of the Linnean Society* 157: 393-428. doi: 10.1111/j.1095-8339.2008.00822.x
- Fuentes-Bazan, S., Uotila, P. & Borsch, T. 2012. A novel phylogeny-based generic classification for *Chenopodium* sensu lato, and a tribal rearrangement of Chenopodiaceae (Chenopodiaceae). *Willdenowia* 42: 5-24.
- Hansen, A. & Sunding, P. 1993. Flora of Macaronesia. Checklist of vascular plants. 4th revised edition. *Sommerfeltia* 17: 1-295.
- Jarvis, C. 2007. *Order out of chaos: Linnaean plant names and their types*. Linnean Society of London and The Natural History Museum. London.
- Kadereit, G., Borsch, T., Weising, K. & Freitag, H. 2003. Phylogeny of Amaranthaceae and Chenopodiaceae and the evolution of C4 photosynthesis. *International Journal of Plant Science* 164: 959-986.
- Linnaeus, C. 1738. *Hortus Cliffortianus*. Salomonem Schouten. Amstelaedami.
- Linnaeus, C. 1753. *Species plantarum* 1. Laurentii Salvii. Stockholm.
- McNeill, J., Barrie, F.R., Buck, W.R., Demoulin, V., Greuter, D.L., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Marhold, K., Prado, J., Proud'Homme van Reine, W.F., Smith, J.F. & Wiersema, J.H. (eds.) 2012. International Code of Nomenclature for algae, fungi and plants (Melbourne Code). *Regnum Vegetabile* 146. Ruggell: Gantner.
- Ogundipe, O.T. & Chase, M. 2009. Phylogenetic Analyses of Amaranthaceae Based on matK DNA Sequence Data with Emphasis on West African Species. *Turkish Journal of Botany* 33: 153-161
- Royen, A. 1740. *Florae Leydensis prodromus*. Samuelem Luchtmans. Lugduni Batavorum.
- Santos-Guerra, A., Jarvis, C.E., Carine, M.A., Maunder, M. & Francisco-Ortega, J. 2011. Late 17th century herbarium collections from the Canary Islands: The plants collected by James Cuninghame in La Palma. *Taxon* 60: 1734-1753.
- Sloane, H. 1725. *A voyage to the islands Madera, Barbadoes, Nieves, St. Christophers, and Jamaica with the Natural History of the Herbs and Tree, Four-footed Beasts, Fishes, Birds, Insects, Reptiles, &c. Of the last of those Islands* 2. Printed by the author. London.
- Townsend, C.C. 1973. Notes on Amaranthaceae: I. *Kew Bulletin* 28(1): 141-146.
- Townsend, C.C. 1974. Amaranthaceae. In: Nasir, E. & Ali, S.I. (eds.), *Flora of West Pakistan*, 71: 1-49. Ferozsons Press. Rawalpindi.
- Townsend, C.C. 1993. Amaranthaceae. In: Kubitzki, K. (ed.), *Families and Genera of Vascular Plants*: 70-91. Springer-Verlag. Berlin.
- Walther, A.F. 1735. *Designatio Plantarum*. Joh. Frid. Gleditschii B. filium. Lipsiae.

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