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Typification of the name *Asperula rupestris* (Rubiaceae)

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Asperula rupestris Tineo (1827: 276) is a species endemic to Sicily, southern Italy. It is a chasmophyte growing on north-exposed calcareous rocks and cliffs of the main promontories of NW Sicily and the islands of Favignana and Marettimo, Egadi Islands, NW of Siciliy (see e.g., Giardina *et al*. 2007).

A nomenclatural study of *Asperula rupestris* (Rubiaceae, tribe Rubieae) revealed that this name has not yet been typified (Peruzzi *et al.* 2015). The present paper is part of ongoing research on the names of vascular plants described using specimens collected in Sicily (e.g., Di Gristina *et al*. 2012, 2016, 2017, 2020; Domina *et al*. 2014, 2016, 2017a, 2017b; Scafidi & Domina 2019; Scafidi *et al.* 2020; Traclet *et al*. 2017). This investigation contributes to the project of the Floristic Group of the Italian Botanical Society to typify all taxa described from Italy, in order to increase their systematic knowledge and promote further studies (Domina *et al*. 2012; Peruzzi *et al.* 2015, 2019; Brundu *et al.* 2017).

Materials & methods

In order to trace the original material of *Asperula rupestris*, we checked the PAL herbarium (acronyms follow Thiers 2020 [continuously updated]), where the main set of Vincenzo Tineo (1791–1856) collection is preserved. We also searched for specimens at FI, G, NAP, P, and RO, where duplicates by Tineo's collections are kept (Stafleu & Cowan 1986).

Typification of the name

Tineo's protologue of *Asperula rupestris* consists of a short but detailed diagnosis: "*Foliis omnibus senis, linearibus, acutis, aristatis, margine revolutis, interioribus internodiis subaequalibus, superioribus brevissimis; floribus terminalibus aggregatis, submucronatis*" (all leaves linear, acute, aristate, margin revolute, inferior internodes subequal, the superior ones very short; aggregate, submucronate terminal flowers). In addition, he added the following indication "*Asperula rupestris Sel. S. Nob.*, *Asperula hexaphylla pubescens Guss.*, *Crescit in rupibus prope Panormum*. *Catalfano*, *Sferracavallo*. *Floret Aestate*. *Planta tota hirta. Cultura non mutatur*".

We found three relevant herbarium sheets of *A. rupestris* in PAL, and one in FI. One sheet preserved in PAL, barcode PAL59339, includes five fragments of plants and bears an original label that reads: "*Maggio 1827 / Asperula rupestris Nob / Sferracavallo*."

The second specimen at PAL, barcode PAL80557, is composed of six fragments of plants, and has the original label: "*Maggio 1827. / Asperula rupestris Nob / A. hexaphylla All. b. Guss*. / *Sferracavallo.*"

The third sheet at PAL, barcode PAL80559, is composed of four fragments of plants and two original labels: "*Maggio 1827. / Asperula rupestris Nob. / et Bert. Flora Italica / A. hexaph: All. b. Guss. / Asp. hexaphylla […] Dec. Prodr. / Sferracavallo*" and "*Maggio 1827. / Asper. rupestris glabra Bert / Asperula hexaphylla All. / Sferracavallo / Catalfano.*"

Even though the three PAL specimens lack the name of the collector, they are original material because their labels are written in Tineo's handwriting and bear the mention "Nob.".

The sheet preserved in FI is composed of four specimens, with their respective labels. Two of them, with barcode FI061007 and FI061008, bear no original labels, and only have the handwritten text (author unknown) "*Asperula rupestris Tineo* / *Palermo* / *Da Meli in Sett. 1844*" and "*Asperula Hexaphylla Bert. / Palermo / Da Meli in Sett. 1844*". The other two specimens on the same sheet, with barcodes FI061009 and FI061010, show the Tineo's original annotation, with an addition of the year in which, the specimens were received from Tineo "*Asperula rupestris Tin. / Sferracavallo / Erb. O. R. B. di Pal.*

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/ Da Tineo in Sett.e 1843", "*Asperula rupestris glabra Tin. / Sferracavallo / Erb. R. O. B. di Pal. / Da Tineo in Sett.e 1843.*" The FI061009 specimen, although it bears Tineo's handwriting, is not the most appropriate for lectotypification, because it lacks the date of collection.

In order to trace material referable to *A. hexaphylla* b. *pubescens* Guss., indicated by Tineo as a synonym of *A. rupestris* and which Gussone separated from the widespread *A. hexaphylla* All. by the pubescent leaves and stems, we also checked the Gussone herbarium in NAP. We traced one well preserved specimen that bears the following three labels: "*Mag / Sferracavallo*", *"3a Asperula rupestris Tin. Cat. an. 1827, p. 276 / A. hexaphylla b. /Guss. Pr. Fl. Sic. no All. Aprili, Majo / In rupibus calcareis" and "3.6 Asperula exaphylla var. pubescens /* ♃ *Aprili Majo / Aff. Asp. hirsutate Desf. sed folia non […]laxa / N. B. folia superiora et bractae latiora ac in reliquis specibus/ In rupibus calcareis (cum varietate glabra) / Sferracavallo.*"

It is obvious that the three PAL specimens discussed above are good candidates for lectotypification. They were collected by Tineo before the publication of his name and bear notes in his hand. The specimen PAL80557 is here selected as lectotype because is more complete, is better preserved, it agrees with the protologue, and is consistent with the current usage of the name (Peruzzi *et al*. 2015, Bartolucci *et al.* 2018, Peruzzi *et al*. 2019).

Asperula rupestris Tineo (1827: 276)

Type—ITALY. Sicily: "Asperula rupestris Nob., A. hexaphylla All. b. Guss, Sferracavallo" [*manu Tineo*], May 1827, *s.c., s.n.* (**lectotype**, PAL [PAL80557]! **here designated**; image available at http://147.163.105.223/herbarium_vdetails_en2.asp?idmode=simple&id=94028).

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