

Revived after two centuries of oblivion: Jean Etienne Duby's visit to Sicily (1829–1830)

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ABSTRACT

The analysis of the labels of Jean Etienne Duby's exsiccata kept in the Candolle herbarium has brought to light some previously unpublished information on his botanical journey to Sicily and some of its satellite islands, carried out between 1829 and 1830.

KEY WORDS

Asteraceae; Botanical Exploration; Herbarium of Geneva; History of Botany.

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INTRODUCTION

Jean Étienne Duby (Geneva, 1798-1885) was a talented naturalist. Son of a merchant from Yverdon, he completed his thesis and was consecrated in 1820; four years later he achieved his doctorate in science. He then became a pastor in Chancy (1828-1829), then continued in Eaux-Vives (nowadays included in the municipality of Geneva) from 1831 to 1863. While playing an important role in the Church of Geneva, Duby never ceased to cultivate his botanical interests. His main publications on vascular plants are the first volume of the *Botanicon Gallicum* (Duby, 1828) and a monograph on *Primulaceae* (Duby, 1844). In the period between these two major publications, as a sign of friendship and esteem for his scientific work, Candolle (1838) dedicated a genus belonging to the *Asteraceae* family, *Dubyaea*, to him. Indeed, Duby's main field of research soon became cryptogams (Duby, 1830). On the *Mémoires de la Société de Physique et Histoire Naturelle* of Geneva he published several memoirs on the biology of a group of red algae, the *Ceramiaceae*, on some groups of *Ascomycetes* and then he focused on liverworts and mosses, publis-

hing many notes between 1868 and 1880 (Anonymous, 1886).

Little is known, however, about his travels outside Switzerland, and the only available biography (Anonymous, 1886) provides very poor details in this regard. An attempt was therefore made to obtain more information about his collecting activities abroad, namely in Italy and in Sicily.

MATERIAL AND METHODS

Our research was mostly based on the labels of specimens kept at the Herbarium Candolle of Geneva (G-DC). It was possible to consult online the scanned images of all the Sicilian specimens collected by Duby kept in G-DC (<https://www.ville-ge.ch/mu-sinfo/bd/cjb/chg/advanced.php?lang=fr>). A virtual search for Duby's exsiccata possibly kept in other European herbaria was also carried out. Special attention was paid to check the herbarium of the University of Naples (NAP), looking for some material eventually sent by the Swiss scholar to G. Gussone. At the same time, a careful analysis of the references to plants collected by Duby in Sicily in the volumes

of Gussone's Synopsis (1843, 1844, 1845) was done. The new edition of the Flora d'Italia (Pignatti et al., 2017-2019) was the point of reference for both the nomenclatural treatment and the identification of the taxa listed in the text. The abbreviations of the herbaria cited in the text follow Thiers (2023 onwards).

RESULTS

Duby seems to have cultivated a passion for plants from his early youth. At the age of 19, in fact, he botanized in northern Italy, collecting plants in the surroundings of Como (e.g., Corni di Canzo). Having attended the botany courses held by A.-P. Candolle, encouraged by his teacher and mentor, he refined his skills and broadened his field of interest.

Having written a geographical description of Spain (Duby, 1854) suggests that he knew this country personally. However, there is no trace of Spanish material collected by Duby in G-DC, while the exchange material of NAP suggests that he has visited Catalonia once and that he has botanized across most of southern France (e.g. Roussillon, Pyrénées Orientales, Provence, Marseille, Montpellier). The few exsiccata from Corsica (3 in G, including one collected on the island of Sanguinara, 6 in FI, 1 in P) may be donations from one of the numerous Swiss colleagues investigating the flora of this island at that time.

After finishing his assignment in Chancy and immediately before taking up service in Eaux-Vives, i.e. between spring 1829 and autumn 1830, Duby travelled across Italy to recover from severe illness (Anonymous, 1886). Two specimens kept at the Muséum National d'Histoire Naturelle (P) (<https://science.mnhn.fr/institution/mnhn/collect-ion/p/item/list?recordedBy=duby>) suggest that he was first in Sardinia during 1829 (or received some plants collected there in that year by another Swiss botanist, Philippe Thomas, who helped Giuseppe Giacinto Moris in the making of his "Flora Sardoia"), then he visited Sicily (in 1829 and/or in 1830) and some of its satellite islands (Table 1, Fig. 1). All the samples collected in Sicily were deposited in G-DC in 1832.

Shortly before or soon after his visit in Sicily, while crossing the Bourbon kingdom, he stopped in several sites of the inland, like "Isola near Sora" (today's Isola di Liri, Latium), the hills near Lake Fu-

cino (Abruzzi) and Monte Vergine (Avellino, Campania). He also visited many coastal areas, like the bay near Capo Palinuro (Salerno, Campania), Ostia and Terracina in Latium (Fig. 2).

At that time, three first-rate botanists, Michele Tenore, Giovanni Gussone and Guglielmo Gasparri, were working in Naples, carrying out intense exploring activities with the aim of compiling an ambitious flora of the Kingdom of the Two Sicilies. However, nothing is known about any exchanges between the Swiss scholar and his Italian colleagues. In fact, Duby does not figure among the correspondents and informants mentioned in the preface of the Synopsis Florae Siculae by Gussone (1843). Yet, Duby features among the collectors who sent exsiccata to NAP (Pasquale, 1871; La Valva, 1993), and c. 70 specimens are actually kept there, but none of them comes from Sicily, only one from Lombardy and few more from the alpine crosses of Mont Cenis and Frejus (A. Santangelo, *pers. comm.*). In his Synopsis Gussone (1844, pages 476 and p. 516, respectively) mentions two of the specimens featured in Table 1, namely *Senecio squalidus* var. *c. microglossus*: "prope Catania (Duby ex Dec.) sed non vidi" (selected as lectotype by Barone et al., 2022) and *Centaurea sicula* L.: "Monte Artesino presso Calascibetta (Duby ex Dec.)". It was perhaps Candolle himself who informed Gussone of the presence of these samples in the herbarium of Geneva.

Duby's visit to Sicily also escaped the most authoritative census of travellers who visited the island over the last twelve centuries (Di Matteo, 2000), and neither Sicilian material has been traced in the herbarium of Palermo (PAL) (Mazzola et al., 1997), nor he was mentioned in the main works on the history of botanical exploration of Italy (Saccardo, 1901). As far as we know, Tornabene (1847) is the only Sicilian scholar who was aware of Duby's trip on the island, although he did not provide any further detail on his itinerary.

It has not been possible to ascertain whether Duby visited various locations in northern Italy shortly before or soon after his time in Sicily. Figure 2 provides an overview of the sites where Duby collected some plant specimens, like the rice fields of Ferrara, the countryside between Padua and Vincenza as well as Trieste and its surroundings (e.g. Monte Spaccato). Out of curiosity, Duby probably continued to carry out regular visits and shorter-range herborizations in Italy, as testified by the

| Specimen Code | Location (from the original label) | Naming (from the original label) | Updated plant name |
|---------------|---|---|---|
| G00487716 | Mont Erix oggi S. Giuliano (Sicile) [today's Erice] | <i>Centaurea cineraria</i> L. | <i>Centaurea erycina</i> Raimondo & Bancheva |
| G00451964 | Mont Erix - Sicile | <i>Artemisia arborescens</i> L. | <i>Artemisia arborescens</i> L. |
| G00474115 | Plage de Trapani (Sicile) | <i>Centaurea sphaerocephala</i> L. | <i>Centaurea sphaerocephala</i> L. |
| G00149829 | Ile de la Favignana | <i>Plantago macrorhiza</i> Poir. | <i>Plantago macrorhiza</i> Poir. |
| G00468048 | Marsala (Sicile) | <i>Pulicaria vulgaris</i> Gaertn. | <i>Pulicaria vulgaris</i> Gaertn. |
| G00460776 | Marsala - Castel Vetrano (Sicilia) | <i>Lonas inodora</i> (L.) Gaertn. | <i>Lonas annua</i> (L.) Vines & Druce |
| G00474164 | Castel Vetrano | <i>Centaurea napifolia</i> L. | <i>Centaurea napifolia</i> L. |
| G00450768 | Monte Artesino (centre de la Sicile) [today's Monte Altesina] | <i>Pyrethrum myconis</i> (L.) Moench | <i>Coleostephus myconis</i> (L.) Cass. ex Rchb. f. |
| G00458326 | Monte Artesino (centre de la Sicile) | <i>Tolpis grandiflora</i> Ten. | <i>Tolpis grandiflora</i> Ten. |
| G00472979 | Monte Artesino (centre de la Sicile) | <i>Centaurea sicula</i> L. | <i>Centaurea sicula</i> L. |
| G00471553 | Castrogiovanni (Enna) | <i>Senecio chrysanthemifolius</i> Poir. | <i>Senecio squalidus</i> L. subsp. <i>microglossus</i> (Guss.) Arcangeli |
| G00450957 | Castrogiovanni (Enna) | <i>Santolina chamaecyparissus</i> var. <i>tomentosa</i> (Pers.) DC. | <i>Santolina chamaecyparissus</i> L. |
| G00474612 | Ile de Lipari | <i>Carlina corymbosa</i> L. | <i>Carlina corymbosa</i> L. |
| G00486388 | Mont. de Cannata intérieur de la Sicile. Fontana del Rey [probably on the Nebrodi Mts.] | <i>Cirsium polyanthemum</i> (L.) Spreng. | <i>Cirsium creticum</i> (Lam.) d'Urv. subsp. <i>triumfettii</i> (Lacaita) K. Werner |
| G00474634 | Montagnes de Cannata | <i>Carlina lanata</i> L. | <i>Carlina lanata</i> L. |
| G00474635 | Montagnes de Cannata | <i>Carlina lanata</i> L. | <i>Carlina lanata</i> L. |
| G00474160 | Intérieur de la Sicile au dessus de Syracuse | <i>Centaurea napifolia</i> L. | <i>Centaurea napifolia</i> L. |
| G00453344 | Monte de Cammarata, Intérieur de la Sicile | <i>Anthemis</i> L. | <i>Anthemis cupaniana</i> Tod. ex Nyman |
| G00453913 | Montagne de Camarata. Intérieur de la Sicile | <i>Inula montana</i> L. | <i>Pentanema montanum</i> (L.) D. Gut. Larr. et al. |
| G00453406 | Mont de Cammarata Int.[érieur] de la Sicile | <i>Anthemis aetnensis</i> Schouw | <i>Anthemis cupaniana</i> Tod. ex Nyman |
| G00498600 | Mont. de Camarata, Intérieur de Sicile | <i>Scorzonera hirsuta</i> L. | <i>Gelasia hirsuta</i> (Gouan) Zaika et al. |
| G00471726 | Mont.es de Cammarata, Intérieur de la Sicile | <i>Senecio</i> L. | <i>Senecio siculus</i> All. |
| G00470573 | Torrent de Cammarata (Intér. de la Sicile) | <i>Helichrysum angustifolium</i> (Lam.) DC. | <i>Helichrysum italicum</i> subsp. <i>siculum</i> (Jord. & Fourr.) Galbany et al. |
| G00474603 | Madonie | <i>Carlina macrocephala</i> Moris | <i>Carlina nebrodensis</i> Guss. ex DC. |
| G00453914 | Madonie | <i>Inula montana</i> L. | <i>Pentanema montanum</i> (L.) D. Gut. Larr. et al. |

| | | | |
|-----------|---|--|---|
| G00495567 | Madonie | <i>Adenostyles hybrida</i> (Vill.) DC. | <i>Adenostyles alpina</i> (L.) Bluff & Fingerh. subsp. <i>nebrodensis</i> (Wagenitz & I. Müll.) Greuter |
| G00461929 | Madonia (Sicile) | <i>Artemisia</i> L. | <i>Artemisia alba</i> Turra |
| G00474666 | Intérieur de la Sicile | <i>Carlina sicula</i> Ten. | <i>Carlina sicula</i> Ten. |
| G00471851 | Spadafora Côte Nord à 1/2 journée de Messine | <i>Senecio erraticus</i> Bertol. | <i>Jacobaea erratica</i> (Bertol.) Fourr. |
| G00471925 | Collines au dessus de Messine | <i>Senecio gibbosus</i> (Guss.) DC. | <i>Jacobaea maritima</i> (L.) Pelser & Meijden subsp. <i>gibbosa</i> (Guss.) Peruzzi et al. |
| G00471562 | Catane | <i>Senecio chrysanthemifolius</i> var. <i>microglossus</i> DC. | <i>Senecio squalidus</i> L. subsp. <i>microglossus</i> (Guss.) Arcangeli |
| G00487597 | Nicolosi | <i>Centaurea dissecta</i> Ten. | <i>Centaurea giardinae</i> Raimondo & Spadaro |
| G00453382 | Etna - dernière limite de la végétation | <i>Anthemis aetnensis</i> Schouw | <i>Anthemis aetnensis</i> Schouw |
| G00461865 | Etna - région découverte | <i>Tanacetum vulgare</i> L. | <i>Tanacetum vulgare</i> L. subsp. <i>siculum</i> (Guss.) Raimondo & Spadaro |
| G00452788 | Dans les rochers de lave de la région supérieure de l'Etna - Val[le] del Bove | <i>Achillea ligustica</i> All. | <i>Achillea ligustica</i> All. |
| G00471540 | il vient de l'Etna | <i>Senecio aethnensis</i> DC. | <i>Senecio aethnensis</i> Jan ex DC. |
| G00471518 | Région supérieure de l'Etna | <i>Senecio aethnensis</i> var. <i>incisus</i> (C. Presl) DC. | <i>Senecio aethnensis</i> Jan ex DC. |

Table 1. Prospect of the vascular plants collected by J.-E. Duby in Sicily. Square parenthesis highlight our personal remarks.

presence of a sample of *Micromeria graeca* (L.) Benth. ex Rchb. from Isola Bella delle Isole Borromee (Lago Maggiore, Lombardy) in G-DC (July 1841) and of a few samples collected in the Pre-Alps of Bergamo (Lombardy), near Genoa and at Borgosesia in Piedmont (1855) in PAL.

The analysis of the four letters from Duby to Candolle (1828 onwards: https://archives.cjbg.ch/archive/fonds/CANDOLLEAD/inventaire/n:106?Archives.RECH_Valid=&RECH_S=Duby&RECH_eadid=CANDOLLEAD&type=inventaire) gave no additional hints. Infact, their content does not deal with Italy or Sicily at all.

DISCUSSION AND CONCLUSIONS

The material collected by Duby is of great scientific interest, often referring to taxa endemic to the

island, described precisely in those years (e.g., *Anthemis aetnensis*, *Carlina sicula*, *Senecio erraticus*, *Tanacetum siculum*, etc.) or several decades (e.g., *Anthemis cupaniana*) or even centuries (e.g., *Centaurea erycina*, *Centaurea giardinae*) later. Some of these specimens undoubtedly represented an important element of comparison for the description of taxa published by Candolle (e.g., *Senecio aethnensis*, *Carlina nebrodensis*). During his wanderings, Duby was also able to observe and collect some plants that are very rare in Sicily, such as *Adenostyles alpina* subsp. *nebrodensis* (Fig. 3) and *Santolina chamaecyparissus* (Fig. 4).

The query “Duby + Sicilia/Malta” on the database of the plants stored in FI gave two results, i.e. *Equisetum palustre* L. and *Polystichum aculeatum* Roth. These records suggest that the temporarily unavailable collections of FI may host a certain amount of specimens collected by Duby in Sicily

and sent to Florence later (probably to Filippo Parlatore, authors' note).

Surprisingly enough, except from a single specimen of *Plantago macrorhiza* from Favignana (Egadi archipelago), all the Sicilian exsiccata of G-DC available online belong to the family Asteraceae. However, the presence of species belonging to other plant families kept in several herbaria across all Europe allows us to rule out the possibility that Duby had only focused on the Asteraceae. Furthermore, considering that Duby visited very distant locations, some of which were completely off the standard grand tour circuits of the early 19th century, such as Monte Cammarata, Monte Altesina or Spadafora, his stay on the island must have lasted no less than two to three weeks, even having time to visit some satellite islands such as Favignana and Lipari (Fig. 1). During such a long journey and stay, it is safe to assume that he may have collected a far more conspicuous quantity of exsiccata. The apparent over-representation of Asteraceae is most likely due to the different attention paid by the staff who digitised the data reported on the labels. Probably (and hopefully) further verifications at the G-DC herbarium will allow more samples to be found. As a matter of fact, up to date

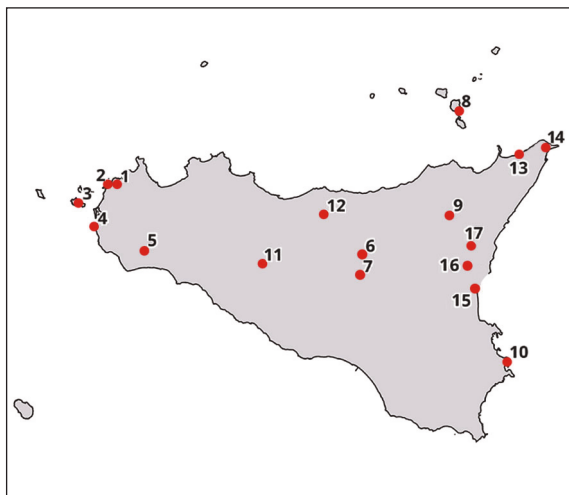


Figure 1. Location of the sites visited by Duby during his Sicilian journey (1829-1830). 1: Mt. Erice; 2: sandy beach of Trapani; 3: Favignana Island; 4: Marsala; 5: Castelvetro; 6: Mt. Altesina; 7: “Castrogiovanni” [= Enna]; 8: Lipari; 9: Mts. of Cannata; 10: Syracuse; 11: Mt. Cammarata; 12: Madonie Massif; 13: Spadafora; 14: surroundings of Messina; 15: Catania; 16: Nicolosi, 17: summit area of Mt. Etna, Valle del Bove.

only half of Candolle's herbarium is available in the G-DC database. The rest of the specimens has been photographed, but the input of the data of the labels has not been done yet. It is therefore very likely that many other samples of Duby are still there unprocessed.

Moreover, the presence of material collected by Duby in the herbarium in NAP and PAL worths being underlined, as this data had escaped the editors of the Index Herbariorum (https://kiki.huh.harvard.edu/databases/botanist_search.php?mode=details&id=7672).

Unnoticed by the scientific community active in Duby's time, his visit to Sicily fell into oblivion over the following decades and centuries. Similar cases are more common than one might think (e.g., Pasta, 2023), but the increasing accessibility of herbarium data through virtual platforms makes it possible to shed light on the itinerary and interest of forgotten, yet important, scientific missions.

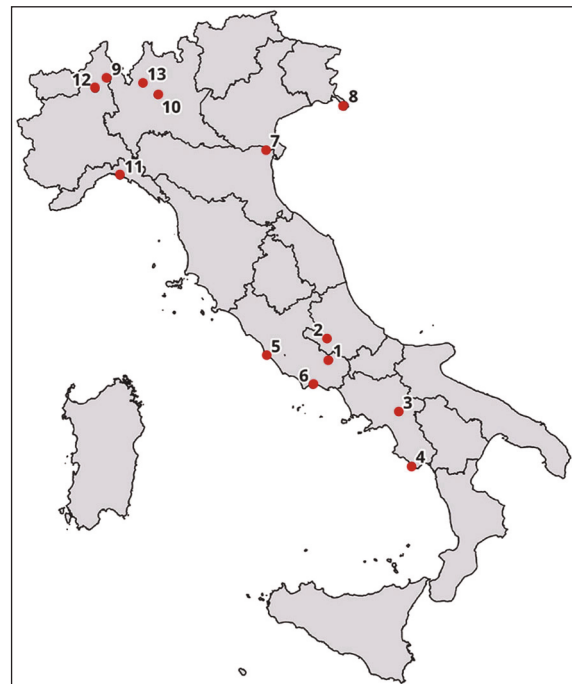


Figure 2. Places visited by Duby during his travel across Italy shortly before or soon after his stay in Sicily. 1: Isola di Liri; 2: Lake Fucino [nowadays drained and turned into an agricultural plain, Author's note]; 3: Monte Vergine; 4: [Capo] Palinuro; 5: Ostia; 6: Terracina; 7: ricefields of Ferrara; 8: Monte Spaccato near Trieste; 9: Isola Bella [Isole Borromee]; 10: Prealpi di Bergamo; 11: Genoa; 12: Borgosesia; 13: Corni di Canzo.



Figure 3. *Adenostyles alpina* subsp. *nebrodensis* (G00495567; <http://www.ville-ge.ch/musinfo/bd/cjb/chg>; last accessed: February 20, 2024).



Figure 4. *Santolina chamaecyparissus* var. *tomentosa* (G00450957; <http://www.ville-ge.ch/musinfo/bd/cjb/chg>; last accessed: February 20, 2024)

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