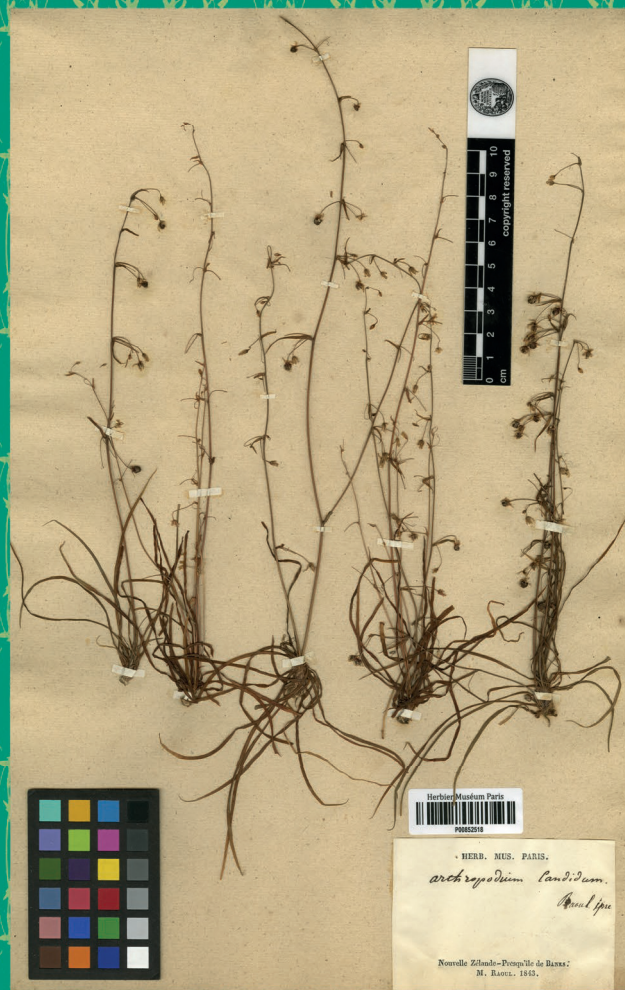


## Lectotypification of the name *Arthropodium candidum* Raoul (Asparagaceae)

Jian WANG & Peter F. HORSFALL



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# Lectotypification of the name *Arthropodium candidum* Raoul (Asparagaceae)

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## KEY WORDS

Asparagaceae,  
New Zealand,  
Raoul,  
lectotypification.

## ABSTRACT

The lectotype (P00852518) is designated for the name *Arthropodium candidum* Raoul, the only species of the genus *Arthropodium* R.Br. (Asparagaceae) still has its type unconfirmed since it was first published in 1844. This action proved necessary and important for establishing correct application of the name.

## RÉSUMÉ

*Lectotypification du nom Arthropodium candidum Raoul (Asparagaceae).*

MOTS CLÉS  
Asparagaceae,  
New Zealand,  
Raoul,  
lectotypification.

Le lectotype (P00852518) est désigné pour le nom *Arthropodium candidum* Raoul, la seule espèce du genre *Arthropodium* R.Br. (Asparagaceae) dont le type n'a toujours pas été confirmé depuis sa première publication en 1844. Cette action s'est avérée nécessaire et importante pour établir une application correcte du nom.

## INTRODUCTION

The genus *Arthropodium* R.Br. was established by Robert Brown in 1810. To date, 13 species are described, including eight in Australia (including one extending to New Guinea), three in New Zealand, and one each in New Caledonia and Madagascar (CHAH 2021; POWO 2023). According to CHAH (2021) there are also three species in the genus *Dichopogon* Kunth, that should be reduced to synonymy in *Arthropodium* (Stringer & Conran 1991; Westphalen & Conran 1994).

Of the 13 currently recognised species of *Arthropodium*, *A. candidum* Raoul is the only one that still has its type unconfirmed. Designation of its lectotype is therefore important for establishing its correct application (Turland *et al.* 2018).

When *Arthropodium candidum* was published as a new species, no type specimens were indicated in the protologue, although Raoul clearly cited his own gathering from the forest margins near Akaroa (New Zealand, Canterbury Region) in the description (Raoul 1844). Moore & Edgar (1970) suspected that the type should be at P and also cited Raoul's gathering at K, but they did not make any attempt to formally typify *A. candidum*. In recent years however, digital images of Raoul's collections became available online, making typification of the corresponding plant names more attainable.

### HERBARIUM ABBREVIATIONS (Thiers 2023)

B	Herbarium Berlinense, Berlin;
BM	Natural History Museum, London;
BR	Meise Botanic Garden;
C	University of Copenhagen;
FI	Università degli Studi di Firenze;
G	Conservatoire et Jardin botaniques de Genève;
GH	Harvard University Cambridge;
K	Royal Botanic Gardens, Kew;
L	Naturalis Biodiversity Center, Leiden;
MEL	Royal Botanic Gardens Victoria, Melbourne;
P	Muséum national d'Histoire naturelle, Paris;
US	Smithsonian Institution, Washington.

## TAXONOMY

Family ASPARAGACEAE Juss.

Genus *Arthropodium* R.Br.

### *Arthropodium candidum* Raoul

*Annales des Sciences naturelles, Botanique*, sér. 3, t. 2: 117 (1844).

*Arthropodium reflexum* Colenso, *Transactions and proceedings of the New Zealand Institute* 18: 275 (Colenso 1885 publ. 1886).

*Arthropodium ramulosum* Colenso, *Transactions and proceedings of the New Zealand Institute* 25: 337 (Colenso 1892 publ. 1893).

*Arthropodium bulbosum* G.Simpson, *Transactions and proceedings of the New Zealand Institute* 79: 419 (Simpson 1952).

TYPE SPECIMEN. — **New Zealand** • Presqu'île de Banks [Akaroa]; 1843; Raoul, *Étienne Fiacre Louis s.n.*; lecto-, P[P00852518], here designated (image!, Fig. 1); isolecto-, P[P00852517, P00852519]

(image!), GH[GH00112132] (image!), L[L 0041370] (image!), K[K000794751, K000794752] (the plant with roots on the right hand of the sheet, image!).

### TYPIIFICATION REMARKS

Édouard Fiacre Louis Raoul (1815-1852) was a French surgeon and botanist who made plant collections at the Bay of Islands and Akaroa in New Zealand from July 1840 to November 1841 (Simpson 1976). Upon his return to France towards the end of 1843, Raoul deposited the top set of his collections at the National Museum of Natural History in Paris (Raoul 1844), where he continued to work on them and from where duplicates were distributed to major international herbaria such as B, BM, BR, C, FI, G, K, L, MEL, US (Global Plants 2023).

When *Arthropodium candidum* Raoul was published in 1844, it was described as: "Slender with small ovate sessile bulbs, with linear narrow glabrous leaves, with a simple loose-flowered raceme, with lower pedicels paired or three together (i.e. ternate) (and) with uppermost (pedicels) solitary, with perianth and filaments of stamens glossy-white, with anthers deep-yellow, with capsule dull or black".

We have found three sheets at P that correspond to the gathering cited by Raoul in the protologue for *A. candidum* and traced three additional duplicates at GH, K and L. The three syntypes at P [P00852517, P00852518, P00852519] match the description of *A. candidum* by having all characters, i.e., linear narrow glabrous leaves, a simple loose-flowered raceme, and some inflorescences with more than two flowers per node, but they are incorrectly recorded on the Global Plants database as having been collected by Édouard François Armand Raoul (1845-1898), the nephew of the actual collector who visited New Zealand between 1886 and 1887 (Simpson 1976). Out of these three sheets P00852517 has immature flowers in the inflorescences, thus it is not an ideal candidate for lectotype. Both P00852518 and P00852519, on the other hand, have well-developed root systems, entire leaves and inflorescences with mature flowers and fruits. However, P00852518 is the only gathering that has the word 'ipse' (roughly meaning "-self" in Latin), associated with Raoul's name on the label, therefore it is chosen here as the lectotype of *A. candidum*. Noticeably, the duplicate at K (K000794751 – right hand side fragment only, near the colour chart on the digital image) was sent to Joseph Hooker from Paris according to the label. The specimens to the left of that gathering, roughly in the middle of the sheet, also have number 229 associated with the locality 'Akawa [Akaroa?]' on the label and the name 'Raoul' written underneath but it is uncertain whether they are part of the same gathering as that sent to Hooker from Paris. All three syntypes at P, as well as the duplicates at GH and L, also have pre-printed labels with the date '1843' at the bottom (i.e. the year Raoul returned to France from New Zealand) which is universally misinterpreted as the collection date in the Global Plants database.

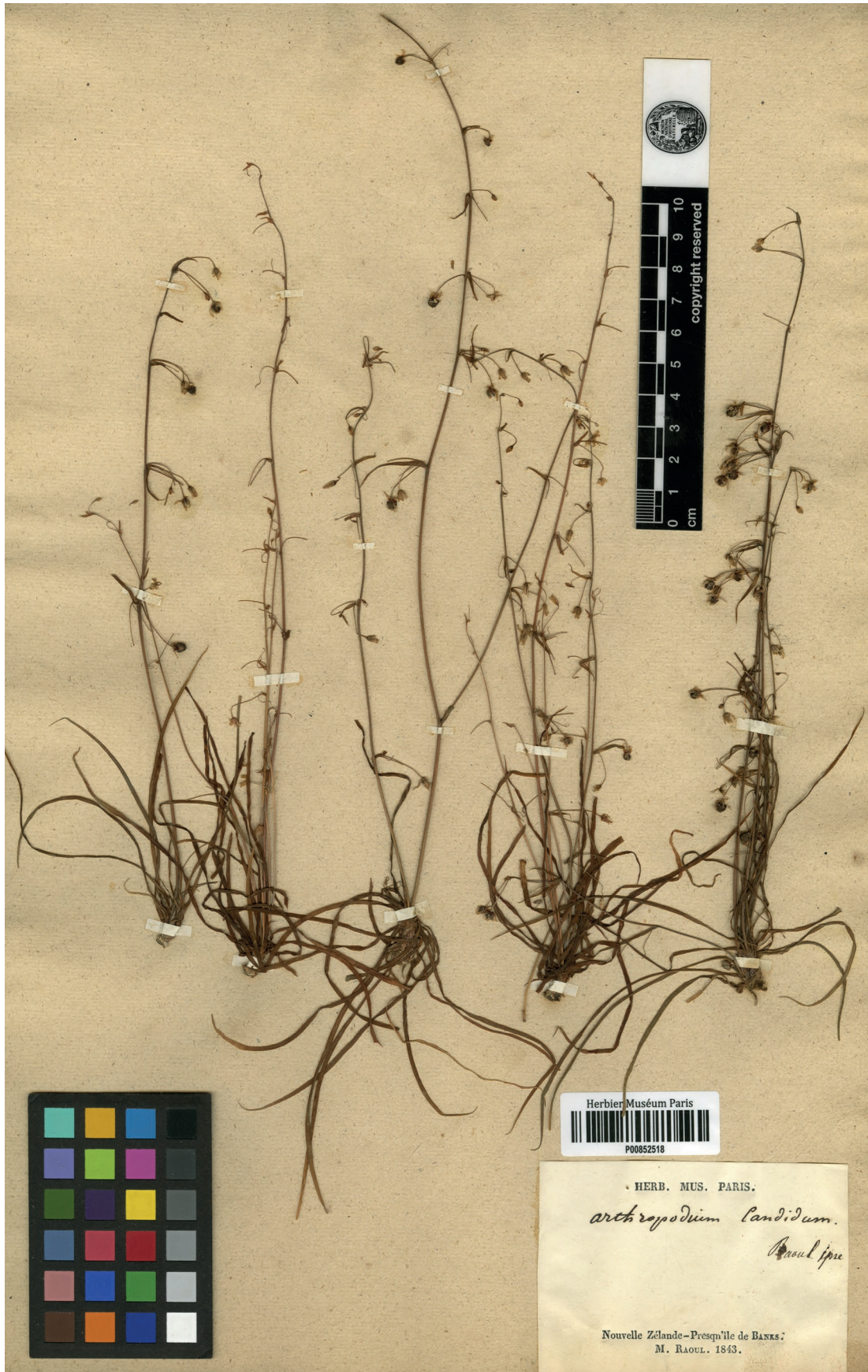


FIG. 1. — Lectotype of *Arthropodium candidum* Raoul at P (P00852518); the sheet with five clumps is designated as the lectotype with a signature “Raoul ipse” in Latin. Image from P with acknowledgement.

### Acknowledgements

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