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Typification of five names of endemic Canarian *Aichryson* species (*Crassulaceae*) described by C. Bolle**Abstract**

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Original material of five *Aichryson* species described by Carl Bolle in 1859 has been traced in the Berlin herbarium (B). Out of this material, lectotypes of Bolle's names *Aichryson bollei*, *A. parlatorei*, *A. pachycaulon*, *A. parviflorum* and *A. porphyrogenetos* are chosen.

Introduction

Following Praeger's important monograph (1932), the most recent work on the systematics of *Aichryson* Webb & Berth. (Webb & Berthelot 1940: 180) is that of Bramwell (1968), who accomplished a synopsis of the genus, comprising 14 species, 4 subspecies and 4 natural hybrids. Nevertheless, the variability of some taxa throughout their distributional range in the Canary Islands indicates the need for an exhaustive taxonomic revision.

The first extensive contribution to the knowledge of this genus restricted to the mid-Atlantic archipelagos (Canary Islands, Madeira, Azores) and Morocco was provided by Carl August Bolle (1859), who published eight new species from the Canarian Islands. The descriptions of five of these species are based on Bolle's own collections, those of the other three species, i.e. *Aichryson benthecourtianum*, *A. palmense*, and *A. sedifolium* (\equiv *Aeonium sedifolium* (Bolle) Pit. & Proust), on material collected by Eugène Bourgeau and Philip Barker Webb, respectively. After his death in 1909, Bolle's herbarium was left to the Berlin herbarium (B), and though many botanists believe it was destroyed during World War II, some minor parts of it have survived and are perfectly preserved, as in case of other important collections (Hiepko 1987). In contrast to the *Aichryson* material, however, no Bolle material of, e.g. *Aeonium*, is extant. The existence of some critical taxa described by Bolle (especially because of their rarity, the presence of hybrids, and similarities to related taxa) led me to carry out the present typification during my stay at the Berlin herbarium in July 1994.

The extant sheets carry handwritten labels by Bolle and a printed label of the Berlin herbarium "C. Bolle: Herbarium atlanticum, acc. 4.1909" (Fig. 1). Each sheet is numbered in pencil at the right bottom corner; this number is also given in the lectotype citation, below.

Aichryson bollei Webb ex Bolle in Bonplandia 7: 244. 1859.

Lectotypus (designated here): "Barranco del Rio, Palma, 24/9.52, an quelligen, schattigen Stellen", C. Bolle: Herbarium atlanticum n° 1298 (B!; isolectotypus (n° 1297) B!).

There are two sheets of the same collection in the Berlin herbarium (n° 1297 and 1298), and their labels have the date and locality as given in the protologue ("HAB. in Palmae insulae Barranco del Rio, in umbrosis humidiusculis d. 24 m Septembris a nobis detectum"). Sheet n° 1298 is designated here as the lectotype, sheet n° 1297 is thus an isolectotype.

As mentioned in the protologue ("*A. bollei*, Webb in litteris schedulisque herbarii sui") the species was already considered as new and dedicated to Bolle by P. B. Webb but not published. A correspondingly annotated specimen ("*Aichryson bollei* Nob") in the Herbarium Webbianum (FI-W), probably collected by E. Bourgeau or by Webb himself, however, clearly represents *Aichryson laxum* (Haw.) Bramwell.

The type specimen has a pubescent (not densely so) stem, branches, pedicels, peduncles and leaves; the leaves are trapeziform, broader towards the tip, the margins are papillose, not crenulate and without black dots; the petals are broad (3 mm) and attenuated towards the acuminate tip. Concluding from the original description, Praeger (1932) and Bramwell (1968) suggested that the presence of appressed hairs on the stem and inflorescence is a peculiarity of this species. The type specimen, however, shows the usual indumentum also found in other taxa of the genus.

Aichrysum pachycaulon, Bolle.

Pico de la Zarza, Mandia

April 57

C. B.

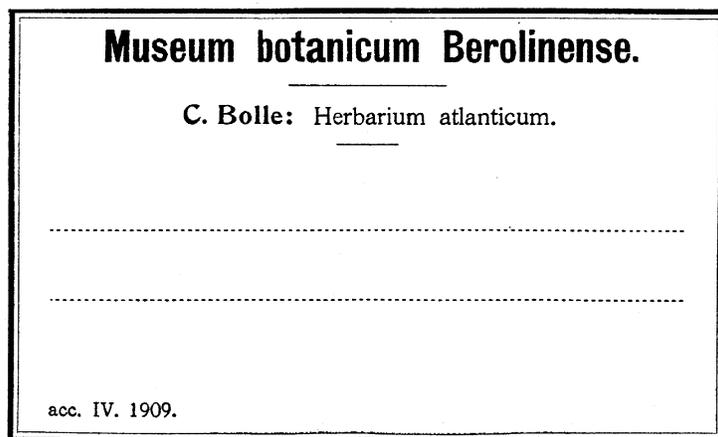


Fig. 1. Labels on sheet no. 1304 with the lectotype of *Aichryson pachycaulon*; upper label written by Carl Bolle.

Praeger (1932) and Bramwell (1968) also remark that the species has not been found since Bolle's original collection. Nevertheless, *A. bollei* is surprisingly reported thereafter from various localities on La Palma (Anonymous 1976, Bramwell 1969, Bramwell & Bramwell 1990), even with a small description provided in the last work. I visited these localities, observing that the populations referred to do not correspond with the type material and original description, and consequently do not represent *A. bollei*. Therefore, I consider, at the moment, this species to be confined to the type locality "Barranco del Rio".

Aichryson pachycaulon Bolle in *Bonplandia* 7: 244. 1859.

Lectotypus (designated here): "Pico de la Zarza, Handía, Avril 1852", C. Bolle: Herbarium atlanticum n° 1304 (B!).

There is only one sheet in B (n° 1304) representing the collection quoted in the protologue ("HAB. in Handiae monte Pico de la Zarza, ubi m. Aprili 1854 vix florentem reperi") and annotated as *Aichryson pachycaulon*. The collection is dated April 1852 on this sheet, but in the protologue the collecting date is, possibly erroneously, quoted as April 1854. The sheet carries one flowering branch, the fragment of a second one and two handwritten Bolle labels with the same collecting data but one with the initial determination "*Aichryson punctatum* Webb, Pico de la Zarza, Handía, Avril 1852", which is a similar species as is also mentioned in the original description ("Species inquirenda, habitu peculiari ab *A. punctato* recedens").

Two related species of *A. pachycaulon* were considered by Bramwell (1968) as conspecific: *A. parviflorum* Bolle and *A. immaculatum* Webb ex Christ. Later, Bramwell (1977) subordinated these and *A. gonzalez-hernandezii* Kunkel to *A. pachycaulon* in the rank of subspecies and added a fourth subspecies, *A. pachycaulon* subsp. *praetermissum* Bramwell.

Aichryson parlatorei Bolle in *Bonplandia* 7: 244. 1859.

Lectotypus (designated here): "Gomera, Bco. de San Sebastian, 1856", C. Bolle: Herbarium atlanticum n° 1302 (B!).

There are four sheets in B (n° 1299, 1300, 1301, 1302). Three sheets carry specimens cultivated in the Botanic Garden Berlin ("cult. in horto berlinensi"). The specimen on sheet n° 1302 has the same date and locality as given in protologue ("HAB. in Gomera ad scaturiginum margines in jugo vallem del Gran Rey claudentibus; nec non in imis Barranco de la Villa et Barranco de la Laja in rupestribus secus rivulum. Florens simul ac fructiferum inveni m. Octobri 1856"[Barranco de San Sebastián and Barranco de la Villa refer both to the same locality]) and is therefore designated as lectotype.

Praeger (1932) nomenclaturally incorrectly subordinates Bolle's taxon to a form of *A. punctatum* var. *subvillosum* (Lowe) Pitard & Proust. Later, Bramwell (1968), clarifying the identity of *A. parlatorei*, placed *A. punctatum* var. *subvillosum* and var. *villosum* Webb ex Christ [non *A. villosum* (Aiton) Webb & Berth.] in the synonymy of Bolle's species.

Aichryson parviflorum Bolle in *Bonplandia* 7: 243. 1859.

Lectotypus (designated here): "Bco. de la Galga, dans le foret appelé el Cubo, Autumne 1852", C. Bolle: Herbarium atlanticum n° 1306 (B!).

There is only one sheet in B (n° 1306) labelled with the same date and locality as given in the protologue ("HAB. in Palmae insulae laureto el Cubo de la Galga, ubi m. Septembri 1852 florentem legi"). The specimen has initially been determined as *A. punctatum*, from which the new species is actually distinguished by its small flowers ("*A. parvifloro* inter cognatos flores sunt minimi; dimidio enim minores quam in *A. punctato* inveniuntur").

Bramwell (1968) considered *A. parviflorum* as conspecific with *A. pachycaulon*, but Bramwell (1977) considered it as a separate subspecies of the latter species.

Aichryson porphyrogennetos Bolle in Bonplandia 7: 243. 1859.

Lectotypus (designated here): “Gran Canaria, Valle de Tenteniguada, 1856”, C. Bolle: Herbarium atlanticum n° 1303 (B!).

There is only one sheet in B (n° 1303) labelled with the locality as given in the protologue: “HAB. abunde in rupibus subhumidis vallis Tenteniguadae Canariae Magnae”.

According to Bañares (1990) the species seems to be very rare on Gran Canaria and I have not found it again in the past 12 years at the type locality in Tenteniguada, where, in contrast, the hybrid of this species with *A. punctatum* (C. Sm. ex Link) Webb & Berth (*A. xbramwellii* Kunkel) is very common. Nevertheless, according to Bramwell (pers. comm.) there are still populations of *A. porphyrogennetos* in the Tenteniguada valley, and he furthermore collected the species at El Caidero de La Coruña, in 1996.

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