

## **August Wulforth (1861–1936) and His Overlooked Contributions on the Flora of Angola**

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Source: Candollea, 68(1) : 123-131

Published By: The Conservatory and Botanical Garden of the City of Geneva (CJBG)

URL: <https://doi.org/10.15553/c2013v681a17>

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# August Wulforth (1861-1936) and his overlooked contributions on the flora of Angola

Estrela Figueiredo, Gideon F. Smith & Reto Nyffeler

## Abstract

FIGUEIREDO, E., G. F. SMITH & R. NYFFELER (2013). August Wulforth (1861-1936) and his overlooked contributions on the flora of Angola. *Candollea* 68: 123-131. In English, English and French abstracts.

August Wulforth (1861-1936), a German missionary attached to the *Rheinische Missionsgesellschaft*, collected material in Omupanda (Amboland, Uukuanyama), which is located in present-day Angola. In the past, botanical collections from this area were wrongly proposed as originating from Namibia, so obscuring the occurrence of several taxa north of the borders of this former German colony, in Angola.

## Key-words

August Wulforth – Namibia – Angola – Flora – Herbarium specimens

## Résumé

FIGUEIREDO, E., G. F. SMITH & R. NYFFELER (2013). August Wulforth (1861-1936) et ses contributions oubliées à la flore de l'Angola. *Candollea* 68: 123-131. En anglais, résumés anglais et français.

August Wulforth (1861-1936), un missionnaire allemand membre de la société missionnaire de Rhénanie, la *Rheinische Missionsgesellschaft*, a récolté des échantillons de plantes à Omupanda (Amboland, Uukuanyama) qui se situe actuellement en Angola. Jusqu'à présent, les récoltes provenant de cette localité ont été par erreur attribuées à la Namibie, occultant ainsi la présence en Angola de plusieurs taxons au nord de la frontière avec cette ancienne colonie allemande.

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Submitted on September 23, 2011. Accepted on November 20, 2012.

Edited by P. Perret

## Introduction

Towards the end of the 19<sup>th</sup> and beginning of the 20<sup>th</sup> century, a significant number of papers on the African flora, particularly from southern Africa, were published by Hans Schinz, a well-known professor of botany at the University of Zürich, Switzerland (see for example SCHINZ, 1896, 1903b; STAFLEU & COWAN, 1985). Schinz (1858-1941) visited southern Africa from 1884 to 1887 and spent seven months in Ovamboland in South West Africa, present-day Namibia (GUNN & CODD, 1981). There he was assisted by the Finnish Missionary Martti Rautanen (1845-1926) whose interest in plant collecting was stimulated through his contact with Schinz. Later, Rautanen and Moritz Kurt Dinter (1868-1945) provided further specimens collected in South West Africa for Schinz's taxonomic studies. A lesser known collector who also gathered material for Schinz from this area was August Wulfhorst (1861-1936). Most of his specimens are recorded as having originated from "Amboland, Uukuan-yama, Omupanda" and were cited by Schinz as occurring in South West Africa, at the time a German colony. However, Omupanda is located in present-day Angola. This has been overlooked in the literature on the flora of Angola.

## Historical Background

August Wulfhorst was born on 12 March 1861 in Gütersloh in Germany and became a missionary of the *Rheinische Missionsgesellschaft*, after which he travelled to German South West Africa in 1890 to establish a Rhenish mission. Soon after arriving, Wulfhorst and another Rhenish missionary by the name of Meisenholz, established a mission station at Ondjiva in 1891 (DIERKS, 2003-2004). Ondjiva is situated in present-day Angola. The following year a second mission was established at Omupanda, a locality between Ondjiva and Namacunde, at a latitude of 17°08'S, which also falls within the borders of Angola. In 1892 Wulfhorst married Thusnelda Härlin (DIERKS, 1999-2005, 2003-2004). He collected plant specimens that he sent to Schinz in Zürich, and a large quantity of ethnological material (GUNN & CODD, 1981). Regrettably, his photographs were kept in the photographic archives of the Rhenish missions in Germany, which was destroyed during the Second World War. None of his photos survived (VILHUNEN, 1995), but some fortunately appeared in a book called *Ovamboland* (TÖNJES, 1911). Hermann Tönjes was also a Rhenish Missionary in the Kwanyama area who later became commissioner at Lüderitz (DIERKS, 1999-2005). He was stationed at Omupanda from 1899 to 1907. During that period Wulfhorst was on leave in Germany for c. two and a half years, in 1900-1902 (TÖNJES, 1911). Tönjes' book provides an account of the establishment of the Rhenish missions in Ovamboland. Wulfhorst is credited for providing photographs for the book, even though it is not clear whether all the

photographs are his. The church of the Omupanda mission is depicted in one of the photos. The mission had to be closed in 1917 due to an increase in hostilities in the area (GUNN & CODD, 1981) and from 1919 to 1927 Wulfhorst was stationed in Karibib (DIERKS, 2003-2004). He eventually returned to Gütersloh (Germany) where he died on 28 September 1936.

SCHINZ (e.g. 1903b) cited the Wulfhorst collections as originating from German South West Africa and not Angola. This is not surprising, considering the historical background of the area. On 30 December 1886 Portugal and Germany signed the German-Portuguese Boundary Convention. An arbitrary border between Angola and German South West Africa was then agreed upon. This border was defined by mapmakers and had little immediate effect in the field. However, it would have a tremendous effect on the local Ovambo people, as it caused the splitting of the Kwanyama Kingdom. At the time of Wulfhorst's activity, Ueyulu ya Hedimbi, who reigned from 1884 to 1904 was the Kwanyama King. On their arrival in Ovamboland Wulfhorst and Meisenholz were invited by King Ueyulu to establish their mission at Ondjiva, then the capital of the Kingdom (DIERKS, 1999-2005). King Ueyulu's photograph appears in TÖNJES (1911) book, and the photograph was probably taken by Wulfhorst. The town of Ondjiva retains its name today, after a few decades of colonial rule when it was known as Pereira d'Eça. In the late 19<sup>th</sup> century, Lutheran churches had a strong presence in the area (DUPARQUET, 1953). In the years that followed the establishment of the Rhenish missions, both Portuguese and Germans tried to subjugate the Kwanyama to extend their power and consolidate their presence in the area. King Nande who succeeded King Ueyulu in a short reign (1904-1911) that ended with his death, managed to independently negotiate with both sides to obtain protection from the other. Meanwhile, the border between Namibia and Angola remained under dispute with no end in sight. The disputed area between latitudes 17°17'10"S and 17°23'10"S (a strip c. 13 km wide) was then considered a neutral zone.

In 1911, at a very young age, Mandume ya Ndemufayo (c. 1894-1917) became King (SHIWEDA, 2005). As the First World War was raging in Europe, he attacked Portuguese outposts but was defeated in August 1915 after a three-day battle against about 7,000 Portuguese troops lead by General Pereira d'Eça (who would later be commemorated in Ondjiva's colonial name). Mandume signed a treaty with the British South African Administration and had to move the capital of his Kingdom further south, to Oihole (SHIWEDA, 2005), a locality that was in the area claimed by the Germans but is now in Angola, near the border with Namibia, 6 km north of Odibo in Namibia. He was also made to relinquish power over his subjects in the area dominated by the Portuguese. Mandume did not submit to the colonial powers and after refusing to surrender his weapons to South Africa, an expeditionary force (the 'Ovamboland Expedition') attacked Oihole in 1917. Mandume was found

dead a few days after the battle, the reason for his death being unclear. Mandume's death caused a vacancy in the throne of the Kwanyama Kingdom that was to last over 80 years. These confrontations took place not far from the Rhenish missions and resulted in their closure. At this time Wulffhorst left the region. The Omupanda mission was later taken over by the Roman Catholic Church (IGREJA EVANGÉLICA LUTERANA DE ANGOLA). The border between the colonies was only officially accepted in 1922, when Portugal's claim to the neutral zone succeeded. It was defined along the latitude 17°23'23"S between the rivers Cunene/Kunene and Cubango/Okavango, and it was officially demarcated in 1928.

### Collections from Omupanda

No collections by Wulffhorst have previously been recorded from Angola in the literature on the flora of that country. Wulffhorst was also not listed as an Angolan collector (FIGUEIREDO & SMITH, 2008). The herbarium of the University of Zürich (Z) holds the first set of Wulffhorst collections. Other herbaria that hold duplicates of his collection are K and BM. When this study was initiated only 20 specimens appeared in the Z database; after investigation in the literature further specimens were located and included in that database. In 1898 Schinz received from Wulffhorst a total of 172 numbers of herbarium specimens, some of them consisting of up to four

sheets, as stated in the annual report of the Botanical Garden and Botanical Museum of the University of Zürich for that particular year. It is stated that these specimens were received from "missionary Wulffhorst, Omupanda" and that they stem from "Amboland". So far, no correspondence between Schinz and Wulffhorst has been located in the extensive archives of Schinz kept at the Herbarium of the University of Zurich (Z), nor at the manuscript department of the Zentralbibliothek Zürich ([www.zb.uzh.ch](http://www.zb.uzh.ch)) where part of the correspondence of Hans Schinz is deposited.

Most of Wulffhorst's specimens that can be examined online do not carry the original labels (Fig. 1-2); instead standard handwritten labels of unknown origin and reading "Botanische Sammlungen der Universität Zürich. Amboland: Uukuanjama, Omupanda 1898. Leg. Wulffhorst" are affixed to them. Original labels are attached to some specimens, but they are hardly legible. Several discrepancies were found between the original and replacement labels, such as collecting date. Replacement labels indicate a collecting date of 1898, but where original labels are present they show an earlier date. It is now confirmed that the date of 1898 refers to the date when the material was received at Z, which corresponds to a common practice among European herbaria at that time. The collecting numbers listed by Schinz, as well as the numbers in some labels, are also doubtful and may refer to batches of specimens, since the same number is used for

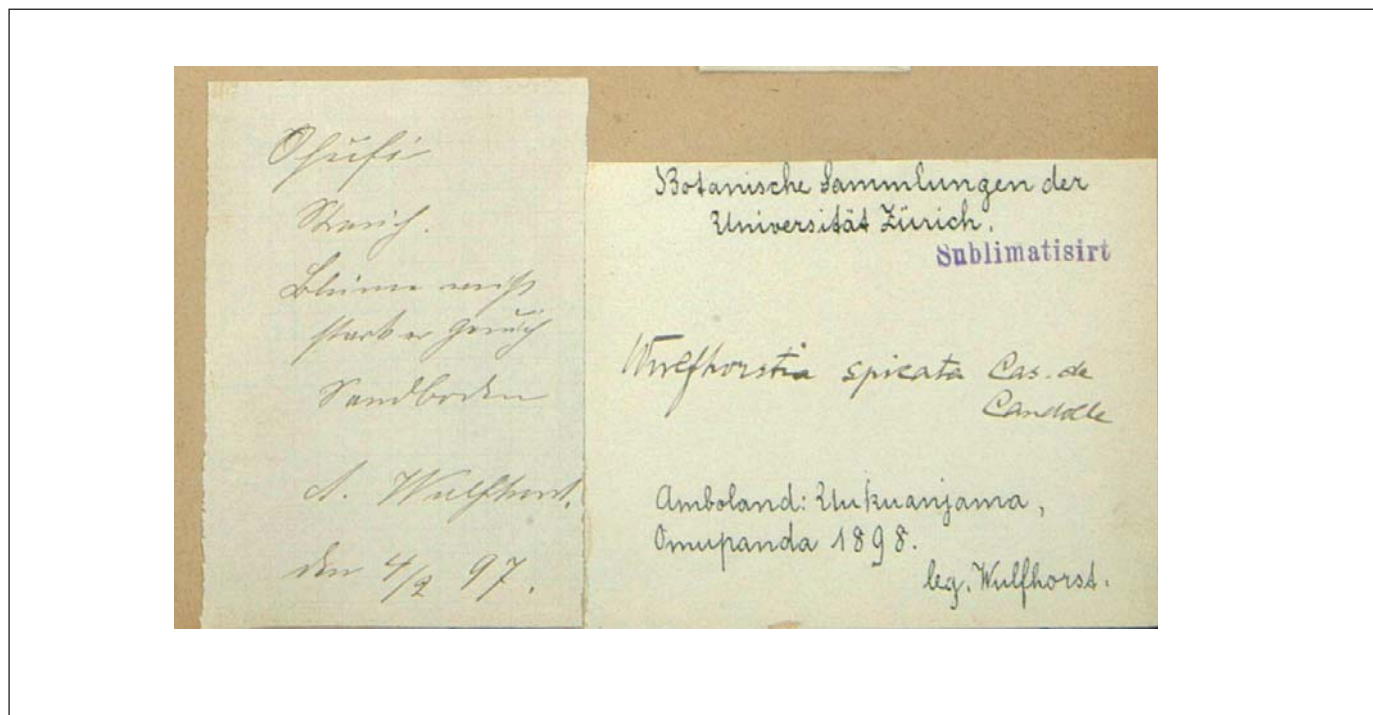


Fig. 1. – Original and replacement labels of the holotype of *Wulffhorstia spicata* C. DC.



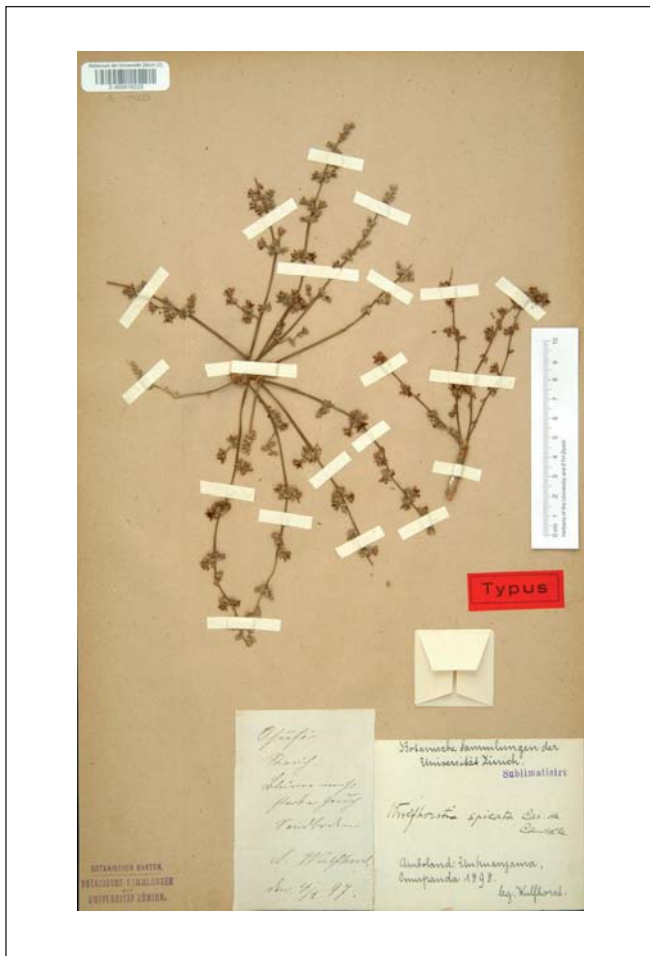


Fig. 2. – Holotype of *Wulffhorstia spicata* C. DC. [Z000015223], showing original and replacement labels.

plants of different families. Nevertheless, all specimens that have a standard label, and those cited by Schinz, have as locality ‘Omupanda’, which may indicate that further information on their origin was obtained by Schinz through other means (such as correspondence). In spite of the discrepancies in the data, all these Wulffhorst specimens originate from present-day Angola, as both missions where he is known to have worked (Ondjiva and Omupanda) are situated in that country. At present, some 34 species from 14 families are represented as herbarium specimens collected by Wulffhorst. In addition to the specimens stored at the herbarium of the University of Zürich (Z) at least two duplicates were provided, presumably by Schinz, to the herbarium of the Royal Botanic Gardens, Kew (K), and the holotype of *Melanthera schinziana* S. Moore (*Asteraceae*) [= *Melanthera triternata* (Klatt) Wild] at BM which was received from Schinz in 1903 has apparently no duplicates. The examination of these collections brought to

light four overlooked new records from literature for the flora of Angola (see Table 1) and a further four possible new records requiring confirmation of the identifications.

The Finnish Missionary Rautanen also appears to have collected some specimens in Omupanda. For example, *Rautanen 323*, a type of *Wulffhorstia spicata* C. DC., has a label indicating ‘Omupanda’ and the date 22 September 1900. On the other hand, the syntypes of *Hemizygia serrata* Briq., collected by Rautanen, that were cited in the protologue of that species (SCHINZ, 1903b: 996) as originating from Omupanda were apparently misrecorded. One of these specimens, *Rautanen s.n.* dated 1900 (Z-000018796) has an original label reading Ondonga (located in Namibia). Although it has been recorded in the literature that Rautanen spent the years 1891-1903 in Finland (e.g. GUNN & CODD, 1981; ZÜRICH HERBARIUM DATABASE), other sources (DIERKS, 1999-2005) indicate that he moved to Olukonda in 1880 and spent the rest of his life there. In fact, there are several Rautanen collections from Namibia in the period 1891-1903 (see JSTOR PLANT SCIENCE and CATALOGUE DES HERBIERS DE GENÈVE).

The missionary Tönjes, who was based at Omupanda in 1899-1907 (see above) also appears to have sent collections to Schinz. He was commemorated in *Celosia toenjesii* Schinz (= *Hermstaedtia argenteiformis* Schinz). In the protologue of this name (SCHINZ, 1903a), Schinz cites as specimens ‘Wulffhorst 19 und 25, Tönjes’. *Wulffhorst 19* is recorded as collected by Wulffhorst in 1895. The other number seems to correspond to a collection registered in Z as Z-000000273. This collection consists of two sheets, both with a type label; one was collected in 1900 by “Mission Tönjes”, while the other one has an original label dated 1895 that proposes Wulffhorst as collector, with no mention of Tönjes. The number 25 was added to these two sheets in a different handwriting and does not appear to be the original collection number. These specimens are not duplicates of the same collection.

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**Table 1.** – Known collections of August Wulffhorst (classification follows AFRICAN PLANT DATABASE). [ZHD = ZÜRICH HERBARIUM DATABASE; JSTOR = JSTOR PLANT SCIENCE].

Wulffhorst Nr	Date	Taxon (accepted name in square brackets, if different)	Type
170	1898	Acanthaceae: <i>Monechma divaricatum</i> (Nees) C. B. Clarke	
—	1898	Acanthaceae: <i>Monechma divaricatum</i> (Nees) C. B. Clarke	
—	1898	Acanthaceae: <i>Petalidium variabile</i> C. B. Clarke var. <i>variabile</i>	
191	1898	Acanthaceae: <i>Ruellia patula</i> Jacq.	
6	1895	Acanthaceae: <i>Ruellia patula</i> Jacq.	
190	1897	Acanthaceae: <i>Ruellia patula</i> Jacq.	
35	1898	Amaranthaceae: <i>Achyranthes aspera</i> L.	
39	1898	Amaranthaceae: <i>Aerva leucura</i> Moq.	
19	18.1.1895	Amaranthaceae: <i>Hermibstaedtia argenteiformis</i> Schinz	
—	—	Apocynaceae: <i>Baijsea wulffhorstii</i> Schinz	Iso-
2	4.3.1894	Apocynaceae: <i>Baijsea wulffhorstii</i> Schinz	Holo-
2	4.3.1895	Apocynaceae: <i>Baijsea wulffhorstii</i> Schinz	Iso-
45	1898	Apocynaceae: <i>Carissa edulis</i> Forssk. [= <i>C. spinarum</i> L.]	
—	—	Asteraceae: <i>Melanthera schinziana</i> S. Moore [= <i>M. triternata</i> (Klatt) Wild.]	Holo-
5	27.11.1896	Bombacaceae: <i>Adansonia digitata</i> L.	
37	1895	Bombacaceae: <i>Adansonia digitata</i> L.	
14	4.10.1894	Combretaceae: <i>Combretum odontopetalum</i> Engl. & Diels [= <i>C. zeyheri</i> Sond.]	Lecto-
14	3.1895	Combretaceae: <i>Combretum odontopetalum</i> Engl. & Diels [= <i>C. zeyheri</i> Sond.]	Isolecto-
16	1898	Cyperaceae: <i>Bulbostylis hispidula</i> (Vahl) R. W. Haines	
14	1898	Cyperaceae: <i>Cyperus schinzii</i> Boeck.	
5	1898	Cyperaceae: <i>Cyperus margaritaceus</i> Vahl	
15	1898	Cyperaceae: <i>Cyperus margaritaceus</i> Vahl	
13	1898	Cyperaceae: <i>Pycnus chrysanthus</i> (Boeck.) C. B. Clarke	
17	1898	Cyperaceae: <i>Pycnus chrysanthus</i> (Boeck.) C. B. Clarke	
12	1898	Cyperaceae: <i>Rhynchospora holoschoenoides</i> (Rich.) Herter	
2	1898	Fabaceae: <i>Acacia amboensis</i> Schinz [= <i>A. sieberiana</i> var. <i>woodii</i> (Burrill Davy) Keay & Brenan]	Syn-
2	1898	Fabaceae: <i>Acacia amboensis</i> Schinz [= <i>A. sieberiana</i> var. <i>woodii</i> (Burrill Davy) Keay & Brenan]	Syn-
2	1898	Fabaceae: <i>Acacia amboensis</i> Schinz [= <i>A. sieberiana</i> var. <i>woodii</i> (Burrill Davy) Keay & Brenan]	Syn-
2	1898	Fabaceae: <i>Acacia amboensis</i> Schinz [= <i>A. sieberiana</i> var. <i>woodii</i> (Burrill Davy) Keay & Brenan]	Syn-
22	29.5.1895	Fabaceae: <i>Baphia obovata</i> Schinz [= <i>B. massaiensis</i> subsp. <i>obovata</i> (Schinz) Brummitt]	Holo-
46		Iridaceae: <i>Ferraria viscaria</i> Schinz [= <i>F. glutinosa</i> (Baker) Rendle]	Holo-
23	10.5.1895	Lamiaceae: <i>Acrotome amboensis</i> Briq. [= <i>A. inflata</i> Benth.]	
s.n.	1898	Lamiaceae: <i>Acrotome amboensis</i> Briq. [= <i>A. inflata</i> Benth.]	Para-
3	4.3.1895	Lamiaceae: <i>Acrotome amboensis</i> Briq. [= <i>A. inflata</i> Benth.]	Para-
43	5.2.1897	Lamiaceae [or Verbenaceae]: <i>Clerodendrum glabrum</i> E. Mey.	
1	1898	Lamiaceae: <i>Hemizygia serrata</i> Briq. [= <i>Syncolostemon bracteosus</i> (Benth.) D. F. Otieno]	Syn-
1	1898	Lamiaceae: <i>Hemizygia serrata</i> Briq. [= <i>Syncolostemon bracteosus</i> (Benth.) D. F. Otieno]	Syn-
1	1898	Lamiaceae: <i>Hemizygia serrata</i> Briq. [= <i>Syncolostemon bracteosus</i> (Benth.) D. F. Otieno]	Syn-

Barcode	References	Notes
Z-000075008	ZHD	
Z-000075009		
Z-000075010	ZHD	
Z-000033061	ZHD	No original label. <b>Possibly a new record for Angola.</b>
Z-000075060	ZHD	
Z-000075059	ZHD	
Z-000075061	ZHD	
Z-000073329	ZHD	
Z-000033398	ZHD	No original label.
Z-000073342		
Z-000073330	ZHD	Only one of the two sheets contains labels, indicating a collection consisting of two parts.
Z-000073331		
Z-000000990	SCHINZ (1896: 816); ZHD	
Z-000000991	SCHINZ (1896: 816); ZHD	Original label reads '15 Sept. 1894' and has no collecting number. Cited by VAN DILST (1995) as originating from Namibia.
K000233984	SCHINZ (1896: 816); JSTOR	
Z-000051135	ZHD	Original label date is 15.10.1896. Locality appears to be Omukishinanga?
BM000924423	SCHINZ (1904: 1018); JSTOR	Incorrectly labelled as from Hereroland. 'Amboland, Uukwanyama'
Z-000073019	SCHINZ & DINTER (1903: 836)	Original label reads 'Omupanda'
Z-000073020		
Z-000073021		
Z-000073022		
Z-000002913	ENGLER (1899: 60)	Original label reads '4 Oct. 1894'. Locality is Uukwanyama, the rest is unclear.
K000226639	ENGLER (1899: 60); JSTOR	Protologue and distributed label indicate 'Omupanda'.
Z-000074089	ZHD	
Z-000073534	ZHD	<b>Possibly a new record for Angola.</b>
Z-000073687	ZHD	
Z-000073688	ZHD	
Z-000074402	ZHD	<b>Possibly a new record for Angola.</b>
Z-000074403	ZHD	<b>Possibly a new record for Angola.</b>
Z-000074432	ZHD	
Z-000021298	SCHINZ (1900: 105); ZHD	No original label.
Z-000021299	SCHINZ (1900: 105); ZHD	No original label.
Z-000021300	SCHINZ (1900: 105); ZHD	No original label.
Z-000021301	SCHINZ (1900: 105); ZHD	Original label reads 'Omupanda 15.10.1896'
Z-000022529	SCHINZ (1896: 815); ZHD	Original label is partly concealed on image but reads 'Omupanda'. The date is in a later label.
Z-000073023	CANDOLLE & al. (1900: 77)	No original label.
Z-000073016		Original label does not mention Omupanda.
Z-000073017	SCHINZ (1903b: 1095)	No original label.
Z-000073018	SCHINZ (1903b: 1095)	No original label.
Z-000072302	ZHD	
Z-000018802	SCHINZ (1903b: 996); ZHD	
Z-000018801	SCHINZ (1903b: 996); ZHD	
Z-000018800	SCHINZ (1903b: 996); ZHD	These three duplicates lack original labels. Later labels give the date as 1898. However, in the protologue of the species the date cited is 1895.

Cont.



Table 1. – *Cont.*

Wulforth Nr	Date	Taxon (accepted name in square brackets, if different)	Type
—	1898	Lamiaceae: <i>Ocimum menthiifolium</i> var. <i>australe</i> Briq. [= <i>Ocimum forskolei</i> Benth.]	Type?
—	1898	Lamiaceae: <i>Ocimum suave</i> var. <i>distantidens</i> Briq. [= <i>O. gratissimum</i> L. var. <i>gratissimum</i> ]	Syn-
—	1898	Malvaceae: <i>Hibiscus cannabinus</i> L.	
169	1898	Malvaceae: <i>Hibiscus elliotiae</i> Harv.	
s.n.	1898	Malvaceae: <i>Pavonia hirsuta</i> Guill. & Perr. [= <i>P. senegalensis</i> (Cav.) Leistner]	
157 (7?)	4.3.1895	Malvaceae: <i>Pavonia hirsuta</i> Guill. & Perr. [= <i>P. senegalensis</i> (Cav.) Leistner]	
110	10.3.1895	Malvaceae: <i>Pavonia schumanniana</i> Schinz [= <i>P. clathrata</i> Mast.]	
171	1898	Malvaceae: <i>Pavonia schumanniana</i> Schinz [= <i>P. clathrata</i> Mast.]	
171a	1898	Malvaceae: <i>Sida cordifolia</i> L.	
171a	1898	Malvaceae: <i>Sida cordifolia</i> L.	
170	1898	Malvaceae: <i>Sida grewoides</i> Guill. & Perr. [= <i>S. ovata</i> Forssk.]	
171	1898	Malvaceae: <i>Sida grewoides</i> Guill. & Perr. [= <i>S. ovata</i> Forssk.]	
—	1898	Meliaceae: <i>Wulforthia spicata</i> C. DC. [= <i>Entandrophragma spicatum</i> (C. DC.) Sprague]	Iso-
—	1898	Meliaceae: <i>Wulforthia spicata</i> C. DC. [= <i>Entandrophragma spicatum</i> (C. DC.) Sprague]	Holo-
27	1898	Nymphaeaceae: <i>Nymphaea caerulea</i> Savigny [= <i>N. nouchali</i> var. <i>caerulea</i> (Savigny) Verdc.]	
10	1898	Poaceae: <i>Melinis repens</i> (Willd.) Zizka	
11	1898	Poaceae: <i>Setaria appendiculata</i> (Hack.) Stapf	

Barcode	References	Notes
Z-000018954	ZHD	No original label. Labelled as type, but the variety could not be found in the literature. <b>Possibly a new record for Angola.</b>
Z-000029667	SCHINZ (1903b: 980); ZHD	No original label. It is labelled as lectotype by A. Paton (1990, in sched.).
Z-000073001	SCHINZ & DIINTER (1903: 832)	No original label.
Z-000073000	SCHINZ & DIINTER (1903: 830)	No original label. <b>New record for Angola.</b>
Z-000073024		No original label.
Z-000073025		No original label.
Z-000073026	SCHINZ & DIINTER (1903: 828)	Original label reads 'Omupanda'.
Z-000073027	SCHINZ & DIINTER (1903: 829)	Original label reads 'Omupanda'. <b>New record for Angola.</b>
Z-000073028	SCHINZ & DIINTER (1903: 829)	No original label. <b>New record for Angola.</b>
Z-000072998	SCHINZ & DIINTER (1903: 827)	No original label.
Z-000072999	SCHINZ & DIINTER (1903: 827)	No original label.
Z-000072997	SCHINZ & DIINTER (1903: 828)	No original label. <b>New record for Angola.</b>
Z-000072996	SCHINZ & DIINTER (1903: 828)	No original label. <b>New record for Angola.</b>
Z-000015247	CANDOLLE & al. (1900: 78); ZHD	No original label.
Z-000015223	CANDOLLE & al. (1900: 78); ZHD	Original label date is 4/2/1897. Locality illegible (see Figure 1).
Z-000067773	ZHD	No original label.
Z-000080724	ZHD	No original label; identified as <i>Tricholaena rosae</i> by Otto Stapf.
Z-000080809	ZHD	No original label; handwritten note by Otto Stapf, undated. <b>New record for Angola.</b>