



New species of *Maerua* (Capparaceae) from Angola

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Key words

Angola
Capparaceae
endemism
Maerua
Southern Africa
taxonomy

Abstract Genus *Maerua* has around 60 species represented on the African continent, of which three have been reported for Angola. Two new species of *Maerua* (Capparaceae) from Angola are here described. Both are closely similar to *M. juncea* subsp. *juncea*, being distinguished by floral traits such as the receptacle, androphore and gynophore (*M. pintobastoeae*) or leaf traits such as venation, as well as size and shape of the ovary and disc shape (*M. mendesii*). A key for *Maerua* species occurring in Angola is provided, as well as a table summarizing and comparing the morphological characters for the new species and similar African species. With the description of these two new species, the genus *Maerua* comprises five species in Angola.

Resumo O género *Maerua* tem cerca de 60 espécies representadas no continente Africano, das quais 3 foram já reportadas para Angola. São aqui descritas duas novas espécies de *Maerua* (Capparaceae) de Angola, ambas estreitamente semelhantes com *M. juncea* subsp. *juncea*, da qual diferem por caracteres florais como o recetáculo, andróforo e ginóforo (*M. pintobastoeae*) ou por caracteres foliares como nervação, bem como tamanho e forma do ovário e forma do disco (*M. mendesii*). Apresenta-se uma chave das espécies de *Maerua* que ocorrem em Angola, bem como uma tabela comparativa das características morfológicas de cada uma das novas espécies com espécies africanas similares. Considerando as novas espécies descritas, o género *Maerua* compreende cinco espécies com ocorrência confirmada em Angola.

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INTRODUCTION

The family Capparaceae belongs to the order Brassicales and is closely related to the Cleomaceae and Brassicaceae (APG III 2009). In the older family arrangements Capparaceae s.l. includes Cleomaceae but molecular data support the recognition of three monophyletic families, Capparaceae s.str., Cleomaceae and Brassicaceae, instead of an all-encompassing Brassicaceae or a paraphyletic Capparaceae s.l. (Illits et al. 2011).

Capparaceae s.str. is a tropical and subtropical family of herbs, trees, shrubs and some lianas, with about 417 species (APG III 2009).

The only taxonomic treatment of the Capparaceae from Angola was published in the first volume of the incomplete work *Conspectus Florae Angolensis* (Exell & Mendonça 1937), which was considered as 'considerably out-of-date' by Brenan a few decades later (1978). Recent work on the family includes the study of the phylogeny by Hall et al. (2002). A review by Figueiredo & Smith (2008) updated the family treatment for Angola, listing a total of 40 taxa in seven genera. A recent study on Capparaceae and Cleomaceae endemic to Angola was carried out by Abreu et al. (2013). Despite these works, as already stated by Hall et al. (2002) the family still needs taxonomic study.

Maerua Forssk. (Forsskäl 1775: 104) is a genus with a wide distribution, ranging from Tropical and Southern Africa to Tropical Asia (Hall 2008), with approximately 60 species represented on the African continent (African Plants Database 2012). Exell & Mendonça (1937) accepted four species of *Maerua* for Angola:

M. angolensis DC. (1824: 254) (including the variety *heterophylla*), *M. buxifolia* (Welw. ex Oliv.) Gilg & Gilg-Ben. (Gilg & Benedict 1915: 249), *M. gilgii* Schinz (1903: 668) and *M. welwitschii* Gilg & Gilg-Ben. (Gilg & Benedict 1915: 250). In a note on the *Maerua* species in Angola, Gonçalves (1962) also reported the occurrence of four species in the country: *M. angolensis* DC., *M. buxifolia*, *M. gilgii* and *M. parvifolia* Pax (1894: 135). This author considered *M. welwitschii* as conspecific to *M. buxifolia*.

Later, Figueiredo & Smith (2008) reported only three species to occur in the country: *M. angolensis*, *M. buxifolia* and *M. parvifolia*. From the previously listed species we here accept only the ones mentioned by Figueiredo & Smith (see the taxonomic notes below), adding two new species with the current study.

We consider that the taxonomy of this genus in Angola is unresolved and the number of *Maerua* species in the country can be an underestimated figure due to the lack of recent taxonomic work on the family. When we were digitizing the Angolan specimens of Capparaceae at LISC for the project IMBAMBA, several unusual specimens called our attention. These specimens were attributed by E.J. Mendes in 1973 to two new undescribed species. A detailed study of the specimens and their comparison to specimens of other taxa from the genus *Maerua*, from Tropical Africa, Southern Africa and Zambesian Region, allowed us to confirm that these do not match any other published taxa and represent two undescribed species, which we name *Maerua pintobastoeae* and *Maerua mendesii*. The species morphologically most similar to the new species is *M. juncea* Pax (1891: 302) subsp. *juncea*, which is distinguished by floral traits such as the receptacle, androphore and gynophore (*M. pintobastoeae*) or leaf traits such as venation, as well as size and shape of the ovary (*M. mendesii*). As summarized in Table 1, *M. pintobastoeae* differs from other similar species not recorded for Angola by traits such as seed size, number of stamens and receptacle (*M. kaokoensis* Swanepoel 2006: 81), fruit shape, texture and size (*M. nervosa* Oliv. 1868: 84) and in having a much shorter

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Table 1 Relevant morphological characters of *M. pintobastoea*, *M. mendesii* and other African morphologically related species.

	<i>M. pintobastoea</i>	<i>M. mendesii</i>	<i>M. juncea</i> subsp. <i>juncea</i>	<i>M. kaokoensis</i> Swanepoel* <i>M. schinzii</i> Pax	<i>M. angolensis</i>	<i>M. nervosa</i> (Hochst.) Oliv.	<i>M. saelicifolia</i> Wiid.*	
Leaf size (l by w)	–	19–44 by 1–5 mm	22–75 by 5–20 mm	(16–)25–60(–95) by (5–)7–17(–30) mm	20–60 by 11–35(–73) mm	15–70 by 13–42 mm	25–60 by 15–35 mm	60–100 by 15–25 mm
Leaf shape	–	linear to strictly lanceolate	linear, narrowly elliptic, elliptic, ovate or rarely obovate	lanceolate, oblanceolate, narrowly elliptic to elliptic, linear-elliptic, linear-oblong or oblong	elliptic to ovate, rarely obovate	elliptic to obovate	narrowly elliptic	narrowly elliptic
Venation		with a brighter marginal vein; sometimes with 1–2 pairs of lateral veins	4–7 lateral veins	4–5 lateral veins, looping before the margin	4–5 lateral veins, looping before the margin	4–6 lateral veins, gathered in submarginal vein	veins in 4–6 pairs	
Stamens number and length	20–30, 12–18 mm	19–31, 17–27 mm	20–45, up to 21 mm	32–42, 18–35 mm	40–60, 20–26 mm	18–30, c. 20 mm	c. 30, around 25 mm	
Gynophore (l)	8–10 mm	19–23 mm	19–22 mm	18–28 mm	15–20 mm	21–23 mm	c. 22 mm	
Seed diameter and shape	1.1–1.7 mm; irregularly angular, testa minutely granulate	not present in the plants studied	up to 7 mm; subglobose, angular; testa rugose	4–5 mm; globose, testa faintly granulate	5 mm; subglobose, granulate	c. 5 mm; subglobose, testa verrucose	c. 5 mm; irregularly ovate, testa rugose	
Androphore (out of the receptacle; total length)	1.4–2.0 mm; 4.2–5.4 mm total	1.0–2.9 mm; 4.9–5.4 total	usually equalling the receptacle	equal to or extending to 2.5 mm above the receptacle; 11–13 mm total	equal to extending to 2 mm above the receptacle; 5–7 mm total	2 mm; 7 mm total	exserted from the receptacle; 7–8 mm total	
Petals (l by w)	3.7–8.0 by 2.0–3.4 mm, lanceolate to obovate	5.0–7.0 by 2.5–3.8 mm, ovate	3.5–9.0 by 2.0–4.5 mm, elliptic, ovate, broadly ovate or rotund	absent	absent	2.3–7.0 by 1.2–5.0 mm, elliptic	c. 9.0 by 3.5 mm, narrowly elliptic	
Sepals (l by w)	6–11 by 3.0–4.8, elliptic to oblong-elliptic	16–29 by 4.5–7.0 mm, lanceolate	17–19 by 5–6 mm, elliptic	9.8–14.5 by 4.0–5.7 mm, often somewhat cucullate	11–15 by 5–8 mm, elliptic-ovate	15–18 by 6–8 mm, elliptic to broadly elliptic, navicular	c. 20 by 6 mm, narrowly oblong-elliptic	
Pedical	up to 10.5 mm	5–10 mm	up to 35 mm	4–13 mm	8–25 mm	10–20 mm	up to 30 mm	
Ovary	2.8–3.5 mm; oblong to ellipsoidal	5.0–7.9 mm; linear, rarely ellipsoidal	2.4–5.0 mm; ovoid-oblong	4.8–7.1 mm; cylindrical	5–10 mm; ellipsoid-cylindrical	c. 3 mm; oblong-ellipsoid	c. 23 mm; oblong-ovoid	
Fruit	up to 3.9 by 1 cm, slightly torulose with a pointed apex	not present in the plants studied	up to 4.5 by 2.5 cm, ellipsoid sometimes tending to cylindrical	up to 18 by 0.5–0.8 cm, moniliform, faintly colliculate	up to 12 by 0.5–1.0 cm, moniliform, faintly colliculate	2.5–3.7 by 1.3–1.5 cm, ellipsoid-cylindrical, distinctly colliculate	c. 25 by 20 mm, ellipsoid or ovate, roughly verrucose	
Receptacle (l)	2.3–5.4 by 1.9–2.6 mm at mouth, infundibular	3.5–6.0 by 2.2–4.1 mm, campanulate to tubular, rarely infundibular	5–8 by 3–4 mm at mouth, infundibular, faintly ribbed	9–13 by 2–3 mm long at mouth, cylindrical, ribbed	5–12 by 2–3 mm at mouth, infundibular or cylindrical	5–7 by 1.5–2.0 mm at mouth, cylindrical or infundibular	4.5 by 3.0 mm, cylindrical, widened at the mouth	
Disc margin	entire (disc not formed), disc shortly coronated, coronated-undulate or frequently with individual teeth, pointed at the apex and strongly recurved, 0.2–0.7(–1.4) mm	without disc or disc denticulate, with minutely or well-developed teeth (0.2–)0.5–2.2 mm	lobed, with lobes unequally lacinate, 1–2 mm long	disc shortly coronate, margin unequally lacinate with long, irregular fibrillae; branched and usually curved, up to 2.6 mm	coronated, unequally lacinate, c. 2.5 mm long	coronated, 2–3 mm long, unequally lacinate	lobed with lobes unequally lacinate, 0.8–1 mm long	with 4 subquadrate, irregularly dentate lobes 1.5–2.0 mm long

* Material not seen. Data from Swanepoel (2006).

gynophore than all the other species considered. The short gynophore, receptacle and fruit with androphore are illustrated in Fig. 2. Regarding *M. mendesii* (Table 1), the presence of petals allows us to clearly distinguish this species from *M. kao-koensis* and *M. salicifolia* Wild (1958: 46), from this last one also by differences in venation. Flower, leaves and a scheme including a disc with long acute teeth – one of the disc shapes exhibit by this species – are shown in Fig. 4.

MATERIAL AND METHODS

Herbarium specimens held at LISC were studied either for morphological measurements or taxonomical comparison. This comprises 61 *Maerua* specimens from Angola, 257 specimens from the Flora Zambesiaca area and 13 specimens from the Southern African region.

Conspectus Florae Angolensis (Exell & Mendonça 1937, 1951), Flora Zambesiaca (Wild 1960), Flora of Tropical Africa (Oliver 1868), Flora of Southern Africa (Killick 1970), Flora of Tropical East Africa (Elfers et al. 1964), Flora of West Tropical Africa (Hutchinson & Dalziel 1954) and Prodrum einer Flora von Südwestafrika (Roessler 1966) were consulted.

Personal correspondence between the collector O. Azancot de Menezes and E.J. Mendes, who previously studied these specimens, was also considered.

The following morphological characters were analysed: habit; shoots; dimensions, position, shape, margins, indumentum and venation of leaves; pedicel length; receptacle dimensions and shape; disc shape and size; size, shape and indumentum of sepals and petals; androphore and gynophore lengths in mature flowers; number and length of stamens; ovary dimensions and shape; fruit size, shape and texture; number and shape of seeds and texture of testa.

A vernier caliper was used to measure leaves, petiole, sepals and fruits. The other measurements were taken using an eyepiece scale of a Carl Zeiss microscope, at the magnifications of 10×, 16×, 25× and 40×. Specimen occurrences were mapped using ArcGIS 10.0 (ESRI 2010). Table 1 summarizes the most relevant morphological characters when comparing both new species with morphologically similar African species, in order to highlight their distinctive morphological traits. A key for the Angolan species of *Maerua* is presented. This also includes *M. juncea* subsp. *juncea*, as the species closest to both the new taxa, although its presence has not been confirmed for Angola yet.

For the conservation status of the new species, the IUCN Red List Parameters were used (IUCN 2010).

TAXONOMIC NOTES

Maerua angolensis var. *heterophylla* Welw. ex Oliv.

The variety *heterophylla* of *M. angolensis* was published by Oliver (1868: 86) in Flora of Tropical Africa, based on *Welwitsch 968b*, but there are no other known collections identified as this variety. Having examined all the material from *M. angolensis* housed in LISC, LISU and COI herbaria, we verified that the species shows a large variation in the size and shape of leaves, ranging from rounded or broadly elliptic to narrowly lanceolate. One trend in the species leaf shape is that specimens collected in the Angolan inland have leaves broader than those collected in the coastal regions.

The leaves of the type collection, made near Luanda, are narrowly lanceolate, very long, and seem to be the extreme in the range of variation of the species. On the other hand, a collection made by E.J. Mendes in the Namibe area, southwest coastal

region of the country (*Mendes 1242*) exhibits elliptic as well as narrowly lanceolate leaves in different shoots of the same individual (ascertained by the collector on the herbarium sheet). Both Welwitsch and Mendes collections are from small plants, probably juvenile, and the narrowly lanceolate leaves seem to be from long, rapid growing branches.

Therefore, having examined all the *M. angolensis* collections available, including the two that can be considered as having the characteristics of the var. *heterophylla* (*Welwitsch 968b* and *Mendes 1242*) we consider that there is no reason to keep this variety as a good taxonomical entity.

In a study on *Maerua* from the Ethiopian flora, Kers proposed the creation of two subspecies for *M. angolensis*: subsp. *angolensis* and subsp. *socotrana* (Schweinf. ex Balf.f.) Kers (1993: 54). All the Angolan specimens fall into *M. angolensis* subsp. *angolensis*.

Maerua gilgii

Maerua gilgii was referred to in Exell & Mendonça (1937, 1951) as a doubtful name for the specimens *Welwitsch 968* and *968c*, which consist of small vegetative branches. After checking the material housed in LISU we cannot confirm this identification due to the lack of characters, nor match this specimen with any other species recorded in the country. In case further study confirms this identification as being correct, the specimen would be the first occurrence in Angola of *M. juncea* subsp. *juncea*, of which *M. gilgii* is considered a synonym (African Plants Database 2012). Given the geographic continuity between Angolan and Namibian territory, where previous collections of *M. juncea* subsp. *juncea* are reported, it is likely that this species also occurs in Angola, extending its known distribution range in such case.

DESCRIPTIONS

Maerua pintobastoe J.A. Abreu, E.S. Martins & Catarino, sp. nov. — Fig. 1, 2; Map 1

Species *M. juncea* subsp. *juncea* affinis, qua differt per sepala 6–11 × 3–4.8 mm (17–19 × 5–6 mm in *M. juncea* subsp. *juncea*); gynophorum 8–10 mm longum (19–22 mm in *M. juncea* subsp. *juncea*); androphorum manifeste transitive receptaculum (et haud equiparatum); discus multum mutabilis, integer, coronatus, vel dentibus separatis usque 1.4 mm longis (usque 2 mm in *M. juncea* subsp. *juncea*). — Typus: *Menezes, Santos & Barroso 3432* (holo LISC; iso LISC, LUAI), Angola, Huíla, Curoca, Chitado, 17 Sept. 1970 (fl, fr).

Etymology. The species is named after Maria Fernanda Pinto-Basto, in acknowledgement of her work on Angolan plants for more than four decades, at first in LUA herbarium, Huambo, and later in LISC herbarium, and her contribution to the study of the Angolan Flora.

Undershrub or small shrub up to 1.5 m high, rhizomatous, with slender woody branches, not exhibiting leaves at the time of collecting (September), only leaf insertion scars and persistent setaceous stipules (c. 0.5–0.7 mm). *Leaves* probably scaly, very early deciduous. *Stems* usually glabrous, occasionally with long hyaline hairs. *Branches* longitudinally striate, papillose. *Inflorescence* of few-flowered (1–5 flowers) lax racemes, terminal or axillary on short side branches. *Flowers* 4-merous, greenish, pedicel up to 10.5 mm, not clearly distinct from the receptacle, glabrescent to glabrous, articulated, slightly ribbed, frequently with 4 longitudinal prominent ribs. *Receptacle* 2.3–5.4 mm long, 1.9–2.6 mm wide at the mouth, funnel-shaped, subquadrate to quadrate in cross section (Fig. 2), rugose to faintly ribbed, frequently with 3–4 longitudinal prominent ribs, glabrous, pubescent or scabrous in the same individual, slightly widened and undulate at the mouth, extremely variable in the disc and margin, entire, coronated, scalloped or lobed; disc

Fig. 1 *Maerua pintobastoe* J.A.Abreu, E.S.Martins & Catarino. Flowering twig (Menezes, Santos & Barroso 3432, holo LISC). — Scale bar = 10 cm.

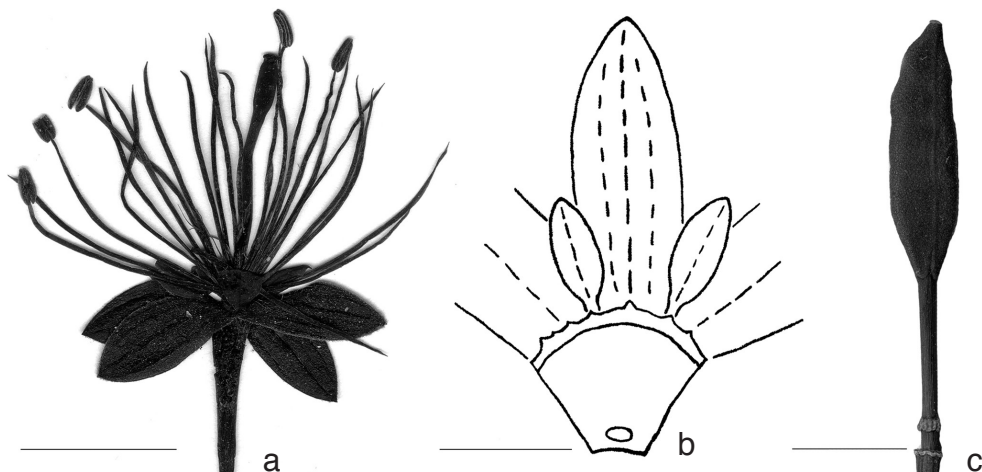
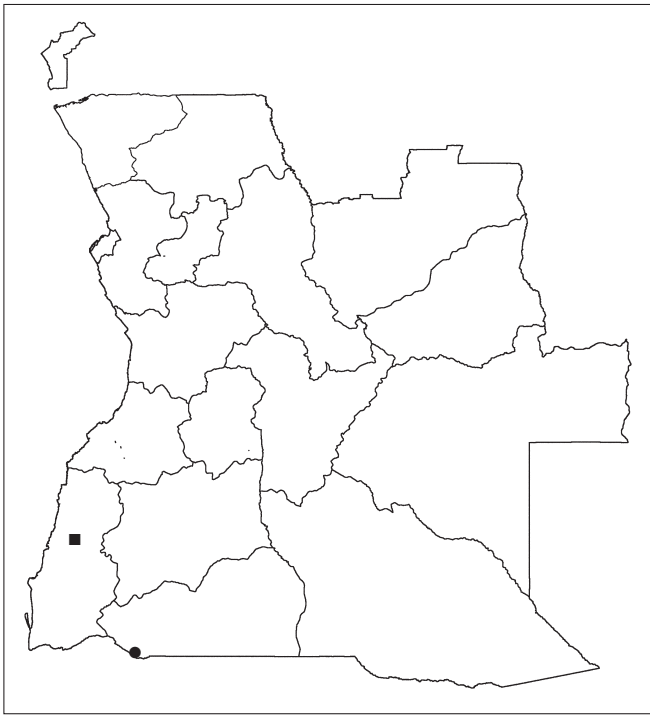


Fig. 2 *Maerua pintobastoe* J.A.Abreu, E.S.Martins & Catarino. a. Flower; b. scheme of an open flower showing receptacle, sepals and petals; c. fruit (all: Menezes, Santos & Barroso 3432, holo LISC). — Scale bars: a, c = 1 cm; b = 0.5 cm.



Map 1 Occurrence of *Maerua mendesii* (●) and *M. pintobastoe* (■) in Angola.

not formed, coronated with a minutely denticulate margin (Fig. 2b) or lobed, with well-developed sharped and recurved lobes, with concavities opposing the petal bases, of 0.2–0.7(–1.4) mm. *Sepals* 4.2–8.0 by 2.0–3.4 mm, elliptic to oblong-elliptic, acute to rounded, mucronate, and slightly hooded at the apex, triveined, occasionally with multicellular glandular golden hairs inside, glabrous outside, margin with dense short glandular hairs. *Petals* 3.7–8.0 by 2.0–3.4 mm, lanceolate to obovate, acute to obtuse at the apex, clawed for up to 0.5 mm at the base, thinly nerved. *Androphore* 4.2–5.4 mm long, exerted for 1.4–2.0 mm above the receptacle. *Stamens* 20–30, including a few staminodes; filaments 12–18 mm long; anthers 2.1–2.4 mm long, oblong, basifixed, emarginated at the apex. *Gynophore* 8–10 mm long, markedly striate, papillose. *Ovary* 2.8–3.5 mm long, oblong to ellipsoidal, ovules 21–22 in two placentas; stigma ring-like, subsessile. *Fruit* slightly torulose, narrowing towards a pointed apex (Fig. 2c), minutely granular, up to 39 mm long and 10 mm diam. *Seeds* c. 12, very irregularly angular, up to 3.0 mm long and 1.7 mm diam.

Ecology — In shrubby steppe-like vegetation on stony soils, at 800–900 m altitude.

Distribution — Known only from the type collection in southern Angola (Cunene province). However, considering its location near Namibia, it is likely that the species also occur in that country.

Phenology — Flowers and fruits in September.

Conservation status — The species is known only from the type collection. It should be considered as Data Deficient with insufficient information (DD3).

Maerua mendesii J.A. Abreu, E.S. Martins & Catarino, *sp. nov.* — Fig. 3, 4; Map 1

Species *M. juncea* subsp. *juncea* affinis, qua differt per folia linearia, cum nervo marginali, aliquando cum 1–2 nervis lateralibus in quoque latere (4–7 nervis lateralibus junctis in uno nervo submarginali in quoque latere in *M. juncea* subsp. *juncea*); ovarium lineare 5.0–9.9 mm longum (ovoid-eum-oblongum 2.4–5.0 mm in *M. juncea* subsp. *juncea*); receptaculum campanulatum usque tubiforme, raro infundibuliforme, 3.5–6.0 mm longum (infundibuliforme, 5–8 mm longum in *M. juncea* subsp. *juncea*), cum

marginem integro laevi vel dentibus undulatis-erosis usque denticulatis ex interior exeuntibus (lobis inaequaliter laciniatis in *M. juncea* subsp. *juncea*). — Typus: Menezes, Henriques & Brites 2994 (holo LISC; iso LISC, LUA), Angola, Namibe, Caracul, ao km 12 da estrada para o Virei, 17 July 1967 (fl).

Etymology. The name of this species pays tribute to Eduardo J.S.M. Mendes (1924–2011), a prolific collector of Angolan flora and expert on the taxonomy of African plants, who first mentioned these specimens as needing study.

Rhizomatous undershrub with subwoody stems, rhizome covered by trilobed scales. *Stems* up to 50 cm high, longitudinally striate, minutely papillose. *Leaves* alternate, simple; lamina 19–44 by 1–5 mm, linear to strictly lanceolate, acuminate to cuspidate at the apex, cuneate at the base, margin entire slightly thickened with a marginal nerve, brighter, glabrous on both sides; occasionally with 1–2 inconspicuous lateral veins on each side, at an acute angle with the midrib (Fig. 4); petiole 1.5–3 mm long and 1 mm diam, papillose, deeply channelled, articulated at the base; stipules 2, trifold. *Inflorescence* of very short axillary corymbose racemes or terminal short 1–4 flowered racemes. *Flowers* 4-merous, greenish yellow, on 5–10 mm long glabrous pedicels; bracts caducous although keeping the stipules. *Receptacle* 3.5–6 mm long, 2.2–4.1 mm wide at the mouth, campanulate (more frequently) to tubular, rarely funnel-shaped, glabrous, slightly to markedly channelled, sometimes with 4–5 longitudinal ribs, margin straight and entire or scalloped, disc not formed or consisting of acute (0.2–)0.5–2.2 mm long teeth (Fig. 4b) with undulate-eroded to denticulate margin, produced from the inner part of the mouth and interspersing petals. *Sepals* 16.0–29.0 by 4.5–7.0 mm, lanceolate, acuminate to shortly cuspidate or mucronate at apex, sparsely glandular outside, puberulous to strigose inside, with a mixed indumentum of short simple and glandular hairs to densely glandular at the margins. *Petals* greenish yellow, 5.0–7.0 by 2.5–3.8 mm, ovate. *Androphore* 4.9–5.4 mm long, exerted for 1.0–2.9 mm above the receptacle. *Stamens* 19–31, including staminodes, filaments 17–27 mm long; anthers 2.2–2.5 mm long, basifixed, oblong to elliptic, with a triangular to subquadrate appendicle of 0.2 mm long at the apex. *Gynophore* 19–23 mm long. *Ovary* 5.0–7.9 mm long and 1.2–1.9 mm wide, linear or rarely ellipsoidal; stigma capitate, subsessile. *Fruit* not seen.

Ecology — In shrubby steppe-like vegetation, at 500–550 m altitude.

Distribution — Only known from south-western Angola, Namibe province.

Phenology — The specimen presented flowers in July.

Conservation status — The species is known only from the type collection. It should be considered as Data Deficient with insufficient information (DD3).

KEY TO ANGOLAN MAERUA

1. Petals absent or (0–3–)4 petals very short, up to 3 mm long 2
1. Petals present, 3.5 mm or longer 4
2. Gynophore 35–40 mm. Stamens 40–60. Leaves smoothly papyraceous, petiole 5–30 mm long *M. angolensis* subsp. *angolensis*
2. Gynophore up to 30 mm. Stamens 15–27. Leaves leathery, coriaceous, petiole 0.5–1.5 mm, rarely up to 3 mm 3
3. Leaves and petioles entirely without hairs or papillae; plant glabrous *M. buxifolia*
3. Leaves differentially pubescent, sparsely to densely papillose; petioles never glabrous, even in the most glabrescent forms *M. parvifolia*
4. Sepals up to 11 mm long. Gynophore 8–10 mm long. Receptacle 1.9–2.6 mm wide at the mouth *M. pintobastoe*



ANGOLA
— LISC —

Fig. 3 *Maerua mendesii* J.A.Abreu, E.S.Martins & Catarino. Flowering plant (Menezes, Henriques & Brites 2994, holo LISC). — Scale bar = 10 cm.



Holotypus

Maerua mendesii J.A. Abreu, E.S. Martins & L. Catarino sp. nov.
Det./Classif. J. A. Abreu, E. S. Martins & L. Catarino / 07/2011

EX-HERBÁRIO
INSTITUTO DE INVESTIGAÇÃO CIENTÍFICA DE ANGOLA (LUA1)

Maerua sp.

Caulis epigeos com cerca de 0,5m; flores amarelo-esverdeadas.

ANGOLA: Moçâmedes, Caracul, ao Km 12 da estrada para o Virei.

COL. A.Menezes, C.Henr. et M.Brites, nº 2994

14 / 7 / 1967

Reu, Henr. & Brites 2994
LISC 018139

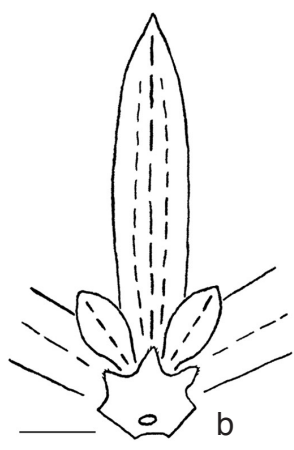
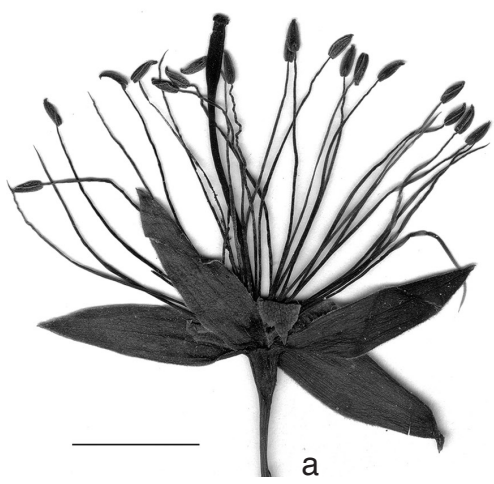


Fig. 4 *Maerua mendesii* J.A.Abreu, E.S.Martins & Catarino. a. Flower; b. scheme of an open flower showing receptacle, sepals and petals; c. leaves (all: Menezes, Henriques & Brites 2994, holo LISC). — Scale bars: a, c = 1 cm; b = 5 mm.

4. Sepals ≥ 16 mm long. Gynophore ≥ 19 mm long. Receptacle 2.2–4.1 mm wide at the mouth 5
5. Ovary ovoid-oblong, 2.4–5.0 mm long. Receptacle infundibular, 5–8 by 3–4 mm, faintly ribbed. Leaves with 4–7 lateral veins united to a submarginal vein on each side *M. juncea* subsp. *juncea*
5. Ovary linear, rarely ellipsoidal, 5–7.9 mm long. Receptacle campanulate to tubular, rarely infundibular, 3.5–6 by 2.2–4.1 mm. Leaves occasionally with 1–2 inconspicuous veins on each side and a marginal vein *M. mendesii*

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