Uvaria botryoides (Annonaceae), a new species from Angola

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Summary. *Uvaria botryoides* Paiva, a new species from Angola is described and illustrated. The species distribution is mapped, and its conservation status assessed. It is compared to all species of the genus *Uvaria* that occur in Angola and a key to Angolan species is presented.

Key Words. Data Deficient, endemic, new taxa, red list, tribe Uvariae.

Introduction

Annonaceae is a pantropical family with c. 42 genera and 400 species in Africa (Couvreur 2014; Chatrou *et al.* 2012; Couvreur *et al.* 2012). *Uvaria* L. is a genus belonging to the tribe Uvariae (Chatrou *et al.* 2012) with just over 100 species (Verdcourt 1971) found throughout tropical and subtropical regions of the Old World. This genus has c. 55 species in Africa, 14 of which occur in Angola. In Figueiredo & Smith's Angolan Checklist, Paiva (2008) initially recognised 11 species of *Uvaria*. Subsequently, two species of *Uvariastrum* Engl., *Uvaria modesta* (Diels) Couvreur and *Uvaria paivana* Couvreur, were transferred to *Uvaria* by Couvreur (2014) following his narrowing of the delimitation of *Uvariastrum*. *Uvaria botryoides* Paiva, described here, brings the total to 14 species of this genus occurring in Angola. Of these, the following six species are endemic to Angola: *U. botryoides* Paiva, *U. cabindensis* Exell, *U. cuanzensis* Paiva, *U. johannis* Exell, *U. mendesii* Paiva, *U. paivana* Couvreur.

Taxonomic Account

***Uvaria botryoides* Paiva sp. nov.** Type: Angola, Cuanza Sul, Bimbe-Cachoeiras road, 22 km from Cachoeiras, fl., 25 April 1967, Teixeira *et al.* 11507 (holotype COI [COI00072625]; isotype LISC).

<http://www.ipni.org/urn:lsid:ipni.org:names:77194122-1>

Straggling or scandent *shrub* up to 2 m; young branches rusty stellate-pubescent, later glabrescent or glabrous, prominent lenticellate. *Leaves* petiolate, petiole (2 –) 3 – 4 mm long, canaliculate, stellate-pubescent, later glabrescent; leaf-blades elliptic-ob-

long or obovate-oblong, (3 –) 6 – 10 (– 11.5) × (1.5 –) 2 – 3.5 (– 4) cm, apex acute, base cuneate or rounded, coriaceous, discolorous, glabrous above, sparse stellate-pubescent or almost glabrous, beneath; nerves impressed and glabrous above, prominent and stellate-pubescent beneath, lateral nerves 6 – 20 (– 23), somewhat prominent, venation rather prominent beneath. *Flowers* solitary, extra-axillary, pedicellate, pedicels 1 – 1.5 cm long, ferruginous stellate-pubescent; bracteoles ovate, 4 – 5 × 3 – 4 mm, sessile, sparse stellate-pubescent, later deciduous. *Calyx* cupular in bud, with a small triangular opening at the apex, splitting irregularly into 3 ovate lobes, 3.5 – 4 × 4 mm, at anthesis, ferruginous stellate-pubescent on both surfaces. *Petals* 5 yellow, fleshy, subequal, ovate-elliptic, 8 – 10 × 5 – 7 mm, rounded at the apex, densely stellate-tomentose on both surfaces. *Stamens* 70 – 80, linear, c. 1.5 mm long, connective-prolongation capitate, glabrous. *Carpels* 12 – 15, cylindric, yellow, 1.5 mm long, glabrous; stigma verrucous, pilose. Fruiting pedicels, 1.5 – 2 cm long, verrucous, glabrous; monocarps stipitate, ellipsoid, 1.5 – 1.8 × 1 – 1.2 cm, 1 – 4-seeded, scarcely constricted between the seeds, obtuse, yellow verrucose, glabrous; stipes 1 – 1.5 cm long. *Seeds* ellipsoid, 8 – 9 × 4 mm. Fig. 1.

RECOGNITION. This species belongs to a complex, in which the species, *Uvaria angolensis* Oliv., *U. botryoides*, *U. cuanzensis*, *U. lucida* Benth. and *U. versicolor* Pierre ex Engl. & Diels are not easy to distinguish without flowers. *Uvaria botryoides* is the only one with a pubescent stigma.

DISTRIBUTION. Endemic to Angola. Map 1.

SPECIMENS EXAMINED. Angola. Cuanza Sul: Bimbe-Cachoeiras road, 22 km from Cachoeiras, fl., 25 April

Fig. 1. *Uvaria botryoides*. A habit; B fruit; C bud; D flower; E stamen; F carpel; G detail of pubescence on the pedicel surface; H detail from undersurface of petal; J detail from upper surface of petal; K detail from upper surface of leaf; L detail from undersurface of leaf; M calyx; N detail from upper (inner) surface of sepal; P detail from under (external) surface of sepal. DRAWN BY INÊS S. M. CARNEIRO.

1967, *Teixeira et al.* 11507 (holotype COI [COI00072625]; isotype LISC); Entre a Fazenda Cambongo e Muxixe na região da Munenga, 400 m alt. [Cuanza Sul: Munenga

region, between Cambongo Farm and Muxixe, 400 m. alt.], fr., 22 Jan. 1971, *Raimundo, Matos & Figueira* 812 (paratype LISC!).

Map 1. Distribution of *Uvaria botryoides* Paiva based on known localities (G. Matos pers. comm. 2016).

HABITAT. Secondary and rain forest, thickets and forest edges.

CONSERVATION STATUS. This species is described here from only two herbarium collections. Despite good locality information provided on the labels, both collections are approximately 50 years old and little is known about the current distribution of this species. There are not enough point data to calculate extent of occurrence (EOO). The area of occupancy (AOO) is only 8 km² but this is most likely a minimum AOO value. There is a lack of information on the size of populations and number of mature individuals. It is suspected that subsistence agriculture and charcoal production are slowly destroying native forests in the proximity of the area previously known as Novo Redondo as well as in the region of Munenga. This species is probably present in areas where the terrain makes farming difficult to establish, nearer Munenga and Calulo and more in the south-east, near Bimbe (Matos, G. pers. comm. 2016). Surveys in these regions are needed to fully document

the distribution and the size of the population of this species, as well as any threats. As a result, according to IUCN categories and criteria (2012), this species is assessed as Data Deficient (DD).

NOTES. The sister taxa to the species described all have distinctive characters. *Uvaria cuanzensis* and *U. versicolor* are species with the connective protuberance densely patent pubescent, but the former has leaves completely glabrous, while *U. versicolor* has leaves with stellate hairs below, at least on the main nerve. The remaining two, *U. angolensis* and *U. lucida*, are not a problem to identify in Angola, because the latter does not occur in the country. The former has leaves with rather coarse indumentum and lateral nerves and venation impressed above, while the leaves of *U. lucida* are glabrescent or with fine indumentum and the lateral nerves almost not impressed and venation slightly raised. The 14 species which occur in Angola can be identified by the following key:

Key to *Uvaria* species in Angola

1. Flowers large; petals 20 – 35 × 15 – 25 mm 2
- Flowers smaller; petals 5 – 20 × 5 – 15 (– 18) mm 3
2. Petals oblong-ovate, acuminate; monocarpis cylindric, 15 – 30 × 5 – 12 mm, apiculate ***U. osmantha***
- Petals obovate-suborbicular, rounded at the apex; monocarpis ellipsoid, 30 – 35 × 12 – 15 mm, rounded at the apex ***U. mendesii***

3. Leaf blade scabrid above; monocarps contiguous, sessile or very shortly stipitate **U. scabrida**
 Leaf blade smooth above; monocarps, separated, stipitate 4
4. Monocarps globose or broadly ovoid, stipes at least twice as long as the monocarps 5
 Monocarps ellipsoid or cylindric, stipes shorter than twice as long as the monocarps 7
5. Leaf blade, coriaceous or subcoriaceous, concolorous, glabrous to glabrescent; monocarp stipes 3 – 5 cm
 long **U. welwitschii**
 Leaf blade papyraceous or membranaceous, discoloured, stellate-pubescent; monocarp stipes 2 – 3.5 cm
 long 6
6. Monocarps long stipitate, stipes 2 – 3.5 cm long; petals coriaceous, revolute **U. poggei**
 Monocarps shorter stipitate, stipes c. 2 cm long; petals fleshy, not revolute **U. cabindensis**
7. Leaf blade glabrous; connective protuberance densely patent pubescent **U. cuanzensis**
 Leaf blade pubescent, at least on the lower side of midrib; connective protuberance glabrous 8
8. Shrubs; pubescence without stellate hairs **U. paivana**
 Lianas or shrubs; pubescence with stellate hairs 9
9. Stigma pubescent **U. botryoides**
 Stigma glabrous 10
10. Inflorescence 1-flowered; pedicels c. 2.5 cm long **U. modesta**
 Inflorescence 1 – 4-flowered; pedicels up to 5 – 6 mm long 11
11. Calyx with lobes distinct in bud, separating into regular sepals at anthesis, free to the middle or to the
 base **U. smithii**
 Calyx cupular in bud, splitting $\pm$ irregularly into three lobes at anthesis or remaining scarcely lobed 12
12. Petals 6 – 12 $\times$ 4 – 6 mm, glabrescent inside **U. versicolor**
 Petals 12 – 20 $\times$ 7 – 10 mm, tomentose to sparsely pubescent inside 13
13. Leaf blade up to 24 $\times$ 8 cm, long acuminate, papyraceous; connective protuberance 0.3 – 0.5 mm long . . **U. johannis**
 Leaf blade up to 13 (– 16) $\times$ 6 (– 8) cm, acuminate or rounded, coriaceous or subcoriaceous; connective
 protuberance 1 mm long **U. angolensis**

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