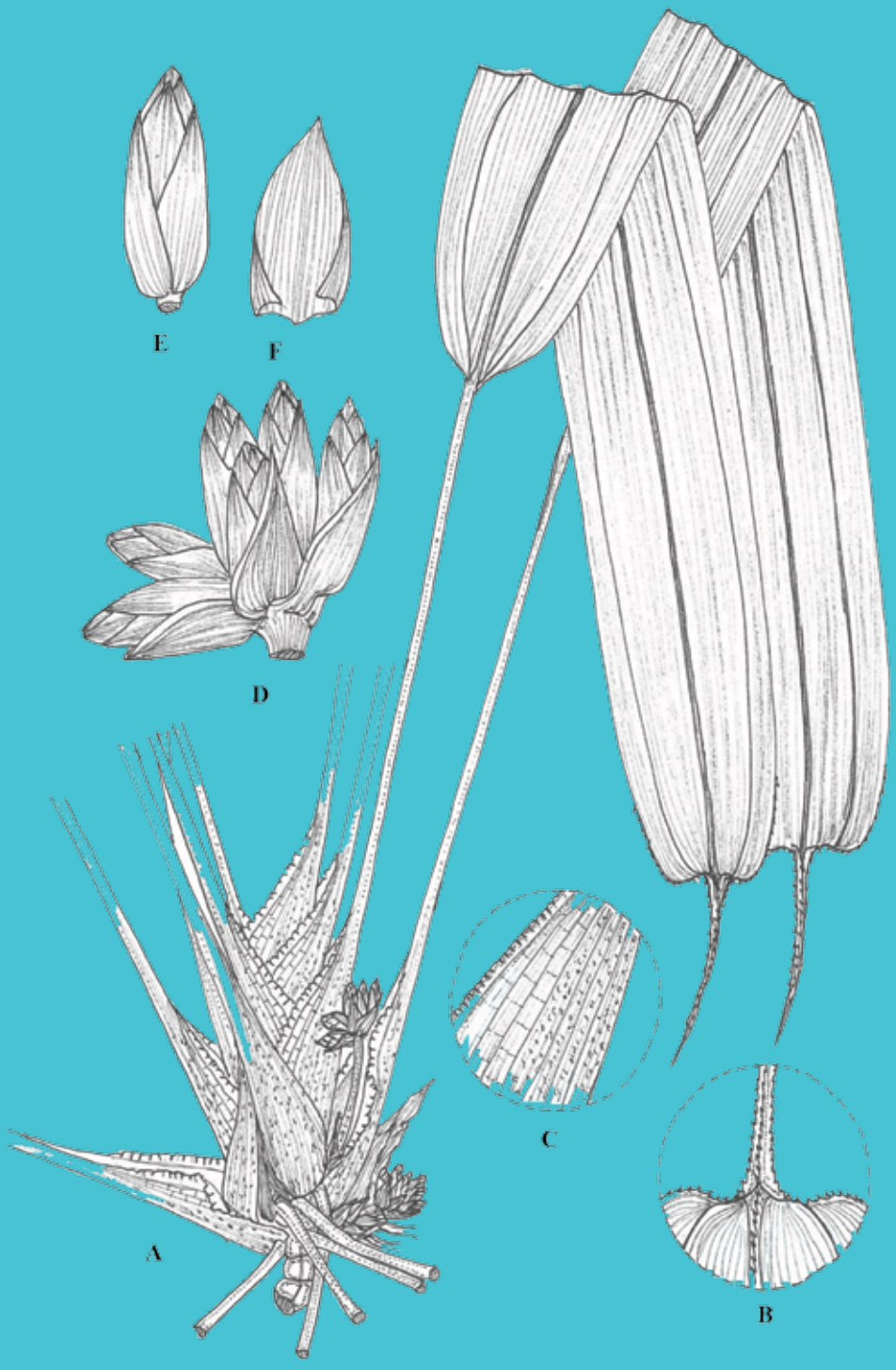
REINWARDTIA

A JOURNAL ON TAXONOMIC BOTANY, PLANT SOCIOLOGY AND ECOLOGY

ISSN 0034 – 365 X | E-ISSN 2337 − 8824 | Accredited 792/AU3/P2MI-LIPI/04/2016



2016 15 (2)

REINWARDTIA

A JOURNAL ON TAXONOMIC BOTANY, PLANT SOCIOLOGY AND ECOLOGY

Vol. 15 (2): 67 – 135, December 22, 2016

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Cover images: *Mapania sembilingensis* Miraadila, Shabdin & Meekiong. A. Habit; B. Leaf apex details; C. Sheath margin details; D. Capitate inflorescence; E. Spike; F. Spicoid bract [Drawing by Meekiong, K.].

The Editors would like to thank all reviewers of volume 15(2):

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REINWARDTIA
Vol 15, No 2, pp: 111 − 114

A NEW SPECIES OF *MURRAYA* FROM CYCLOPS MOUNTAIN, PAPUA, INDONESIA

Received 13 May, 2016; accepted 10 October 2016

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ABSTRACT
ASTUTI, I. P. & RUGAYAH. 2016. A new species of *Murraya* from Cyclops Mountain, Papua, Indonesia. *Reinwardtia* 15(2): 111 –114. — A living collection of Bogor Botanic Gardens, planted in plot XXIV.A.192-192a and originated from Kemiri Said Nature Reserve, Cyclops Mountain in Papua collected by Lugrayasa (LG 1352), is described and illustrated as a new species, namely *Murraya cyclopensis* Astuti & Rugayah. The species is closely related to *Murraya paniculata* (L.) Jack, in vegetative and flower structures, but differ in the presence of indumentum on twig, rachis and petiole, smaller size of flowers, red globose fruits, and orbicular seeds covered by densely short hairs and red aril.

Key words : Cyclops, Kemiri Said Nature Reserve, *Murraya cyclopensis*, new species.

ABSTRAK
ASTUTI, I. P. & RUGAYAH. 2016. Jenis baru *Murraya* dari Pegunungan Cyclops, Papua, Indonesia. *Reinwardtia* 15(2): 111-114. — Koleksi hidup Kebun Raya Bogor yang ditanam di vak XXIV. A. 192-192a, yang berasal dari Cagar Alam Kemiri Said, Pegunungan Cyclops Papua, koleksi Lugrayasa (LG 1352), di pertelakan sebagai jenis baru, dengan nama *Murraya cyclopensis* Astuti & Rugayah. Jenis tersebut memiliki karakter morfologi yang mirip dengan *M. paniculata* (L.) Jack pada karakter vegetatif dan struktur bunganya, tetapi berbeda pada adanya bulu pada ranting, rakis dan tangkai daun, ukuran bunganya yang lebih kecil, buahnya yang membulat dan berwarna merah, serta bijinya yang membundar, berbulu pendek dan lebat serta beraril merah.

Kata kunci : Cagar Alam Kemiri Said, Cyclops, jenis baru, *Murraya cyclopensis*.

INTRODUCTION

The genus *Murraya* has been reported to consist of 11 species and four varieties, distributed from India through Sri Lanka, South China, Taiwan, Indo-China, Thailand, Philippines, Indonesia, New Guinea, New Caledonia and Northern Australia (Swingle & Reece, 1967; Jones, 1992, 1995, Mabberley, 1998).

In 1911 Backer described two species of *Murraya* from Java, Indonesia namely *Murraya exotica* L. and *M. koenigii* Spreng. While Backer and Bakhuizen van den Brink Jr. in 1965 recognized two species, *M. paniculata* and *M. koenigii*, they included *M. exotica* as the synonym of *M. paniculata.* However, Uji (1994) supported Swingle and Reece (1967) and placed *M. exotica* as a distinct species. Recently Astuti (2006) and Astuti *et al*. (2011) enumerated four species of *Murraya* found in Java, namely *M. crenulata, M. exotica, M. koenigii* and *M. paniculata.*

In 2000, Bogor Botanic Garden Team carried out an exploration to Cyclops Mountain Nature Reserve, Papua. One collection, LG 1352 was identified previously as *M. paniculata* (Lugrayasa *et al.*, 2000). During Astuti study on herbarium material of *Murraya* from the National Herbarium Leiden in 2004, she observed that *M. paniculata* from New Guinea, Solomon and Fiji have similar morphological characters with *M. paniculata* from Cyclops. Four years later (2004), seedling of LG 1352 were planted in plot XXIV. A.192-192a as a living collection and registered with accession number B20010319. In 2006 this living collection produced flowers and fruit. Unfortunately, the plant died, but three other new living collections as F1 have been planted in plot XXIV. A. 249 and plot XXIV.B. 172-172 a.

Compared to other species of *Murraya* in Indonesia, the living Papuan collection is closely related to *M. paniculata,* because of the similarity in vegetative and floral structures, but differs in the presence of indumentum, flower size, shape of fruit and its colour, and seed shape. The twig rachis and petiole of this collection are hairy, while the twig, rachis and petiole of *M. paniculata* are glabrous. The flower is smaller but with a shorter peduncle compared to *M. paniculata.* The fruit shape of the collection is globose, bright red color and with a rounded apex whereas *M. paniculata* is ellipsoid (the fruit length is twice the width), orange, and with an acute apex. The fruit of *M. paniculata* has 1–4 seeds, the fruit of the collection has 1–2 seeds. The seed of the collection is rounded with a short acute apex and covered by densely short hairs and red aril,

whereas the seed of *M. paniculata* is ellipsoid, covered with densely long hairs and orange aril (Lugrayasa *et al.*, 2009; Fig. 1).

The globose fruit and circular-semicircular seeds are similar to *M. euchrestifolia* Hayata and *M. crenulata* (Turez.) Oliv. (Swingle & Reece, 1967). It differs from *M. euchrestifolia* especially on inflorescence types, flower sizes and fruit color. *Murraya euchrestifolia* has cymes inflorescences, 0.5 cm flower and reddish-yellow with minute black dots of fruits (Engler, 1931; Chang & Hartley, 1993) (Table 1). While it differs from *M. crenulata* (Turez.) Oliv. especially in color of the fruit. The color of *M. crenulata* is greenish white – pale pink.

Based on those morphological differences, the collection is proposed as a new species.

Murraya cyclopensis Astuti & Rugayah *spec. nov.* —Fig. 1.

Murraya paniculata habitus similis sed indumentum mollis, floris parvis, fructus orbicularis, semina globosa apice brevi acutus, arillum rubrum, — TYPE: Java, Bogor Botanic Gardens, plot XXIV. A. 249, introduced from Kemiri Said Nature Reserves, Cyclops Mountain Papua, 14 March, 2016, Frisca Damayanti *009*, (Holotype: BOHB! ; Isotype: BO!)

Shrubs or small trees, up to 5 m high, branches near the ground (less then 6 branches), bark greyish brown, fissured. *Twigs* green covered by short hairs. *Leaves* compound, paripinate, 7–15 cm long, rachis green covered by soft hairs, consists of (2) 3–11 leaflets, leaflets alternate, rounded with the larger leaflets (2.7–7.2 × 1.8–4.6 cm) at the terminal, and the widest part in the middle of the leaflets length; based obtuse sometimes unequal, apex acute, upper surface bright green, lower surface pale green with soft hairs; midrib hairy; petiole 0.5–0.8 cm, hairy. *Inflorescense* terminal-axillar, solitary or 3 flowers. *Flower* white, fragrant; pedicel *ca*. 3 mm long, hairy; calyx erect green, 1.0–1.5 mm long; petals 5, oblong lanceolate, 0.8–1.2 × 0.3 cm, out curved apex with transparant dot; stamen 10, unequal size; ovary 1 cell. *Fruits* berry, globose 0.8–1.1 cm, green hairy when young, bright red glabrous when ripe, with 1 –2 seeds. *Seed* rounded-semicircular 0.5–0.7 × 0.3 –0.5 cm, greyish cream, one side concave with ridged surface, other side flat, densely hairy, aril red.

Distribution. Cyclops Mountain, Papua

Specimens examined. Java, Bogor Botanic Gardens originated from Cyclops Mountain Papua, plot XXIV. A. 249, 14 March 2016, Frisca Damayanti *009*; plot XXIV. B. 172, 27 August 2016, Inggit Pudji Astuti *IP 1174*.

Local name. Kemuning (Indonesia)

Note. The plant only found at Kemiri Said Nature Reserves, Papua at 200 m altitude asl. In Cyclops Mountain. The information about the population and spatial distribution of the species is not available, thus, conservation status is Not Evaluated (NE).

ACKNOWLEDGEMENTS

We would like to thank Dr. Gillian Dean and Prof. Mien A. Rifai for critically reading the manuscript.

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Table 1. Comparison of *Murraya cyclopensis, M. paniculata, M. euchrestifolia* and *M. crenulata*

No.	Morphological character	*M. cyclopensis*	*M. paniculata*	*M. euchrestifolia*	*M. crenulata*
1.	Indument	soft hair	glabrous	glabrous	glabrous
2.	Leaflet shape	broadly ovate-suborbicular	lanceolate, elliptical, ovate	elliptic-oblong	oblong
3.	Petiole	0.5–0.8 cm	0.1–0.3 cm	0.3 cm	0.4–0.9 cm
4.	Inflorescence	cluster, 1–3 flowers	cluster, 1–3 flowers	cymes, 15–20 flowers	cymes 11–20 flowers
5.	Flower size	0.8–1.2 cm	1.5–2 cm	0.5 cm	0.6–0.8 cm
6.	Fruit shape/size	globose/0.8–1 cm	ovoid–oblong /1–2 cm	globose/1 cm	globose/0.6–1.0 cm
7.	Fruit colour	red	orange	reddish-yellow with minute black dots	greenish white – pale pink
8.	Seed shape/size	circular-semicircular 0.5–0.7 × 0.3–0.5 cm	ellipsoid 0.6–1.4 × 0.2–0.5 cm	semicircular 0.8 × 0.4–0.5 cm	circular – semicircular 0.6 × 0.4 cm

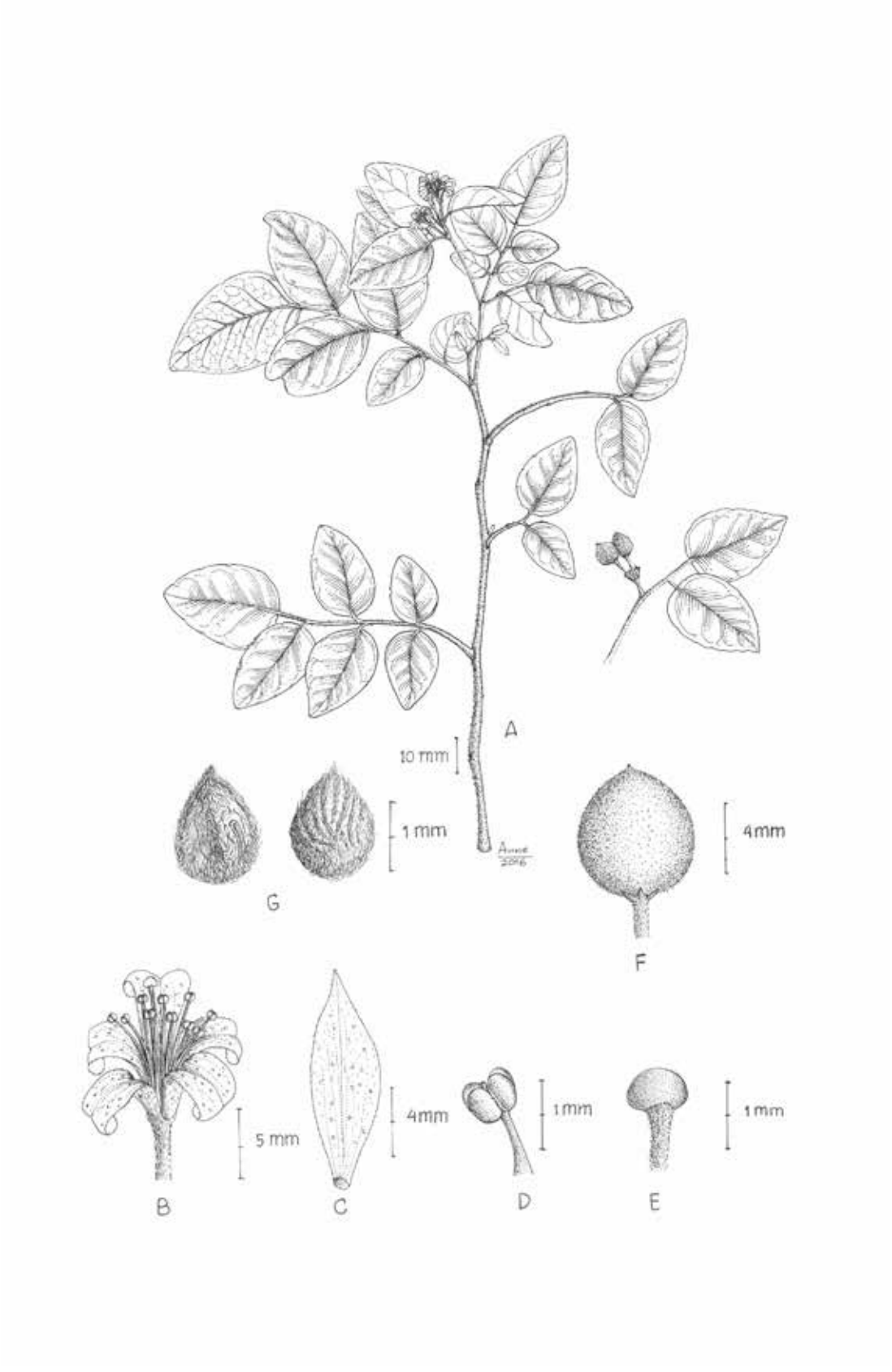

Fig. 1. *Murraya cyclopensis*. A. Habit; B. Flower; C. Corolla; D. Stamens; E. Stigma and style; F. Immature fruit; G. Seeds. Source of materials: Frisca Damayanti 009 and Inggit Pudji Astuti IP 1174. (Drawing by Anne Kusumawaty)

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Scope. *Reinwardtia* is a scientific irregular journal on plant taxonomy, plant ecology and ethnobotany published in June and December. Manuscript intended for a publication should be written in English.

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