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A JOURNAL ON TAXONOMIC BOTANY, PLANT SOCIOLOGY AND ECOLOGY

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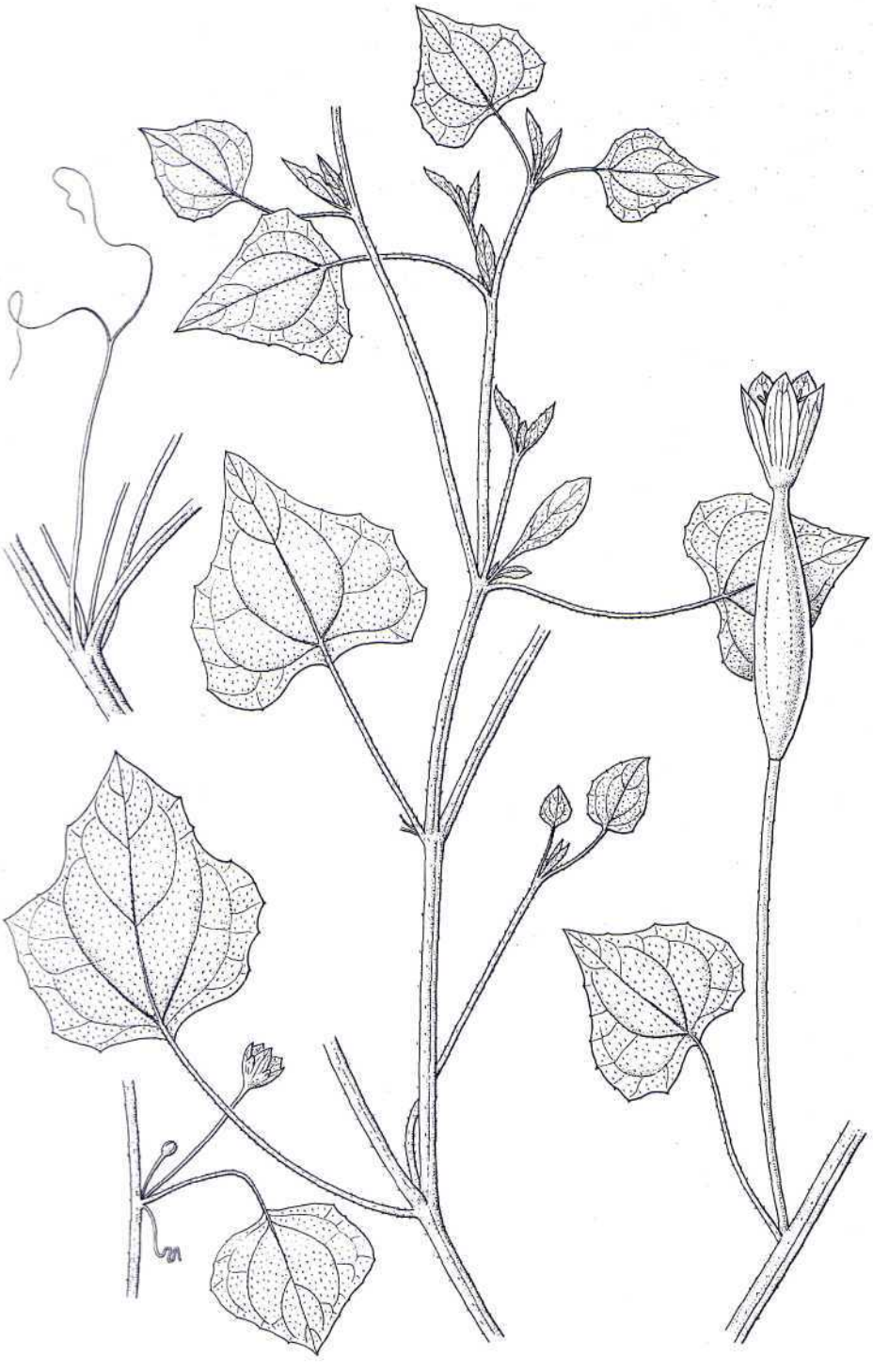

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ANANGIA, A NEW MONOTYPIC GENUS OF CUCURBITACEAE FROM EAST MOLUCCAS

W.J.J.O. DE WILDE, B.E.E. DUYFJES & R.W.J.M. VAN DER HAM
Nationaal Herbarium Nederland, Universiteit Leiden Branch, P.O. Box 9514, 2300 RA Leiden, The Netherlands

SUMMARY
DE WILDE, W.J.J.O; DUYFEES, B.E.E. & VAN DER HAM, R.W.J.M. 2006. *Anangia*, a new monotypic genus of C*ucurbitaceae* from East Moluccas. *Reinwardtia* 12(3): 219 – 222.– A new monotypic genus of *Cucurbitaceae* from Morotai (Indonesia) is described. The genus is defined by unique characters, including large sepals, much longer than the petals, and it has distinctly cucurbitoid pollen features. The only species is *Anangia macrosepala* W.J. de Wilde & Duyfjes.

Keywords: Cucurbitaceae, *Anangia*, new monotypic genus, pollen, SE Asia.

ABSTRAK
DE WILDE, W.J.J.O; DUYFEES, B.E.E. & VAN DER HAM, R.W.J.M. 2006. *Anangia*, suatu marga monotipe baru *Cucurbitaceae* dari Maluku Timur. *Reinwardtia* 12(3): 219 – 222.– Suatu marga monotipe baru *Cucurbitaceae* dari Morotai dipertelakan dicirikan oleh daun kelopak besar yang jauh lebih panjang dari daun mahkota dan mempunyai serbuk sari yang khas untuk *Cucurbitaceae*. Satu-satunya jenis adalah *Anangia macrosepala* W.J. de Wilde & Duyfjes.

Kata kunci: *Cucurbitaceae*, *Anangia*, marga monotipe baru, pollen, Asia Tenggara.

INTRODUCTION

Material of the here described monotypic new cucurbitaceous genus remained for a long time unidentified and its belonging to that family was even uncertain. It consists of a single collection (in BO and L) made on 20 March 1938 at Wajaboela, west coast of Morotai (northern East Moluccas) and perhaps of a second collection also in 1938 from Yamdena (southern East Moluccas). The latter concerns a branch of *Anangia* of the same appearance as the Morotai material, possibly erroneously mounted together with a collection of *Neoachmandra backeri* (*Buwalda 4057*, BO). The collection from Morotai (*Anang 325*) consists of several separate suberect branches with only a few tendrils on the lower nodes. Apparently the shoots were cut-off from a low herbaceous plant with several sub-erect shoots, possibly sprouting from a tuber. Nothing is known from its habitat. Morotai has a rather evenly wet climate (Holthuis & Lam, 1942), and March belongs to the wettest season. The herbarium label gives no further information. The collector Anang was a *mantri* (assistant) from the Botanic Gardens at Bogor. He attended an exploration tour by G.A.L. de Haan to Morotai in search for the coniferous resin 'damar' during which he also collected herbs for the Herbarium (Kruseman, 1950, XXX).

Anangia W.J. de Wilde & Duyfjes, *gen. nov.*

Herba humilis suberecta monoecia. Flores receptaculi tubus minutus vadosus. Discus abest. Flores masculi: sepala magna c. 10 mm longa petalis circa duplo longiora, stamina 5 libera omnia unitheca, thecae sinutae. Flores foeminei: stylus columnaris brachiis longis 3 quibusque stigmato bifurcato. — Typus: *Anangia macrosepala* W.J. de Wilde & Duyfjes, *spec. nov.*

Low suberect herb, tuberous(?), monoecious. *Probract* present in association with flowers. *Tendrils* 2-branched. *Leaf blade* simple, not lobed or shallowly lobed. *Flowers* solitary, erect, long-pedicelled; perianth large, sepals much longer than petals; disc absent; receptacle tube small, shallow. *Male flowers*: stamens 5, free, inserted at base of receptacle, erect, four in two pairs and one solitary, anthers all 1-thecous, thecae sinuate; disc (pistillode) absent. *Female flowers*: ovary elongate, ovules numerous, horizontal, style 1,

columnar, 3-armed, each with bifurcate stigma. One species in Indonesia (Morotai).

Anangia macrosepala W.J. de Wilde & Duyfjes, *spec. nov.* — Fig. 1, 2

Herba ramosa 20–30 cm alta subglabra. Flores solitarii. Pedicellis longis. Flores masculi sepalis c. 10 mm longis, petalis c. 5 mm longis, staminibus erectis, antheris; foeminei ovario longe fusiformi c. 15 mm longi, stylo c. 4 mm longo, brachiis gracilibus. — Typus: *Anang 325* (holo BO; iso L), Morotai.

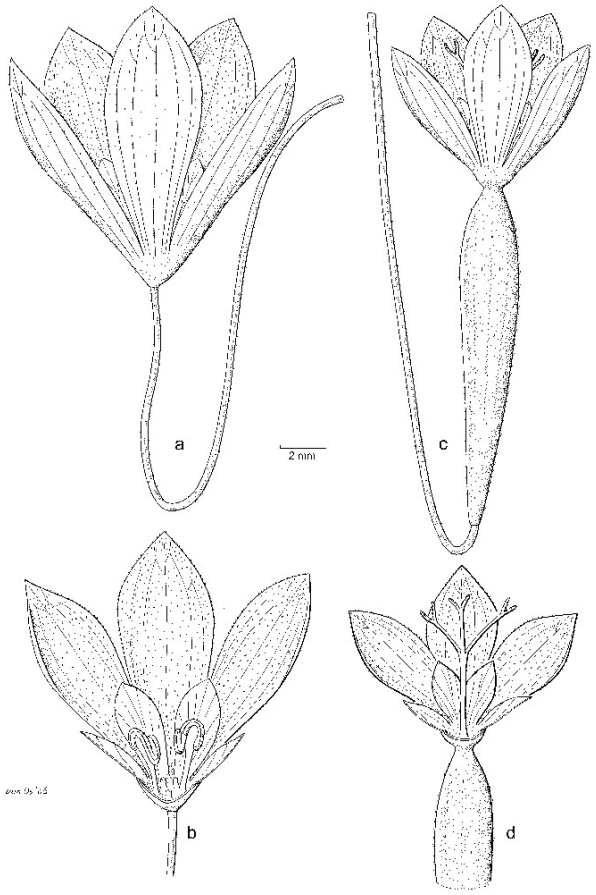

Fig. 1. *Anangia macrosepala* W.J. de Wilde & Duyfjes. a. Portion of sterile branch; b. lower node showing 2-branched tendril; c. node with female flower, possibly erroneously mounted on *Buwalda 4057*. — *Neoachmandra backeri* W.J. de Wilde & Duyfjes subsp. *backeri*. d. Node with male flower (a, b: *Anang 325*; c, d: *Buwalda 4057* (BO)).

Herb, several-stemmed, c. 30 cm tall, subglabrous, possibly tuberous; monoecious; stems suberect, much branched, sparsely minutely hairy, (1–)2 mm diameter. Probract present at base of pedicels, oblong-spathulate, 1(–1.5) cm long. Tendrils only seen on lower nodes, 2-branched from below the middle. Leaves blade membranous, elliptic-rhomboid or sub-triangular, 1.5—2 by 1.5—2.5 cm, base truncate or ± cuneate, narrowly decurrent on the petiole (and thence the basal nerves branching off from above the base of the blade), apex acute, margin sparsely minutely dentate, both surfaces minutely harshly hairy, cystoliths minute, inconspicuous; petiole 1—3 cm long. *Flowers* subglabrous; mature buds not known. *Male flowers*: pedicel 35—40 mm long, at apex not articulate; receptacle-tube c. 1.5 by 3 mm, papillose inside;

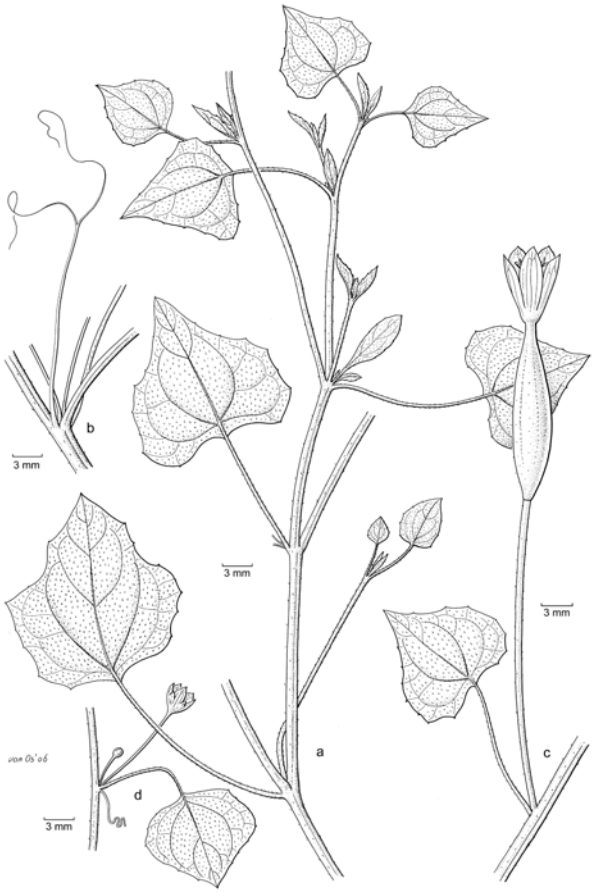

Fig. 2. *Anangia macrosepala* W.J. de Wilde & Duyfjes. a. Male flower, showing large sepals and small petals; b. male flower opened, showing irregularly sinuate thecae; c. female flower, showing large sepals and small petals; d. female flower opened, showing style and forked stigmas (a–d: *Anang 325* (BO)).

sepals large, much larger than petals, elliptic-oblong, 10—12 by 5—6 mm, base ± narrowed and ± clawed, apex acute, glabrous but margin very finely hairy (hairs 0.1 mm long or less), adaxial surface sparsely papillose; petals free, shape similar to sepals, 5—6 by 2.5—3 mm,

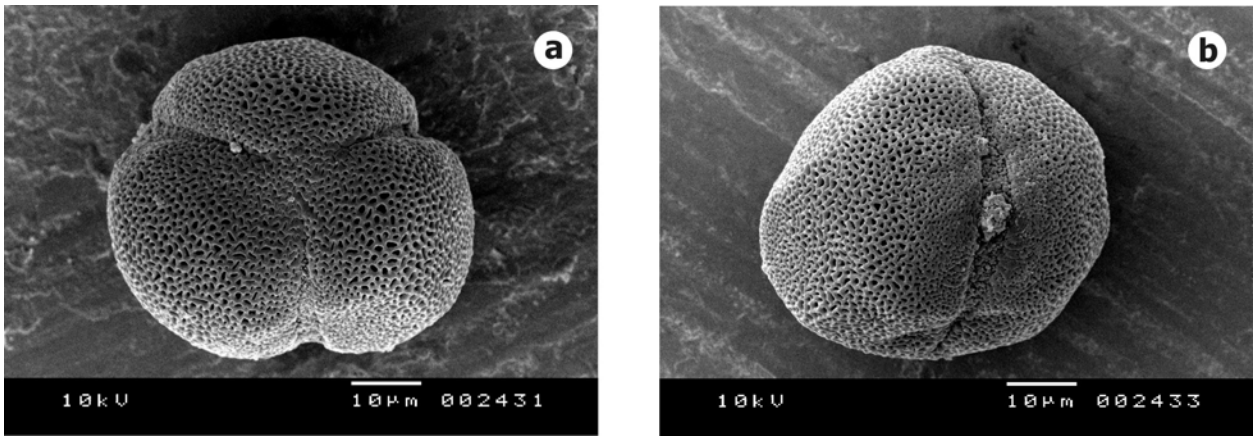

Fig. 3. *Anangia macrosepala* W.J. de Wilde & Duyfjes. a. Pollen grain, polar view. b. pollen grain, equatorial view. Bar = 10 µm.

glabrous, the main veins ending in the margin with a minute dot; filaments c. 1.5 mm long, glabrous, anthers irregularly long-ellipsoid, 1.5—2 mm long, theca irregularly sinuate, at one side along the margin of a broad and thin glabrous 'connective' (see fig. 2). *Female flowers*: pedicel 25—30 mm long, indistinctly articulate at apex; ovary oblong-linear, subfusiform, broadest above the middle, 15—17 by 2.5—3mm, with 0.2 mm long hairs; perianth as in male flowers but smaller; receptacle tube 1 by 3 mm; sepals c. 8 by 4 mm; petals (estimated because of incomplete material) c. 2.5 by 1.5 mm; style slender, c. 4 mm long, glabrous, at apex 3-armed, each arm 2—2.5 mm long ending in a deeply forked stigma c. 1 mm long, finely papillose; disc absent. *Fruit* & *seeds* unknown.

DISTRIBUTION. Moluccas: Morotai, known only from the type; possibly also Yamdena.

HABITAT & ECOLOGY. Only the collecting date of the flowering plant is known: March 1938.

NOTE. The flower-colour of this remarkable large-flowered plant is unrecorded.

AFFINITIES. The stamens are reminiscent of those of forms of *Luffa cylindrica* (L.) M. Roem. with free stamens. Therefore, possibly, *Anangia* belongs in the tribe *Luffeae* (C. Jeffrey) C. Jeffrey of subfamily *Cucurbitoideae*, as defined by Jeffrey, 2005, but see also under pollen morphology.

POLLEN MORPHOLOGY

Pollen grains of *Anangia macrosepala* (*Anang 325*; fig. 3) are large, 3-colporate monads with long colpi and circular to elliptic (lalongate) endopores. Each endopore is surrounded by a very distinct costa. The exine ornamentation is finely reticulate. Dimensions: polar axis (P) 73 µm, equatorial diameter (E) 73 µm.

The pollen fits very well in the *Cucurbitaceae*, and because of the considerable size of the pollen grains, and the presence of very distinct costae surrounding the endopores, it should be accommodated in the subfamily *Cucurbitoideae*. According to Khunwasi (1998), members with 3-colporate, reticulate, relatively large pollen with long colpi and distinctly costate endopores are found only in the subtribe *Benincasinae* of the tribe *Benincaseae* (*Acanthosicyos*, *Coccinea*, *Eureiandra*, *Lagenaria*). The pollen of *Luffa* is comparable, but has less distinct costae around the endopores.

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REINWARDTIA
Vol. 12. No. 3. 2006

CONTENTS

Page

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PUSAT PENELITIAN BIOLOGI - LIPI
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