

8<sup>th</sup>

# International Flora Malesiana Symposium



23 - 27 August 2010  
Singapore Botanic Gardens  
[www.sbg.org/fm8](http://www.sbg.org/fm8)



## TWO NEW SPECIES OF DAEMONOROPS FROM SULAWESI

Received June 8, 2009; accepted June 16, 2009

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### ABSTRACT

RUSTIAMI, H. 2009. Two new species of *Daemonorops* from Sulawesi. *Reinwardtia* 13(1): 25–30. — *Daemonorops mogeana* Rustiami and *Daemonorops takanensis* Rustiami are described and illustrated for the first time based on specimens collected from Central Sulawesi and South Sulawesi respectively. An identification key of *Daemonorops* in Sulawesi is constructed in order to differentiate between those two species and other species of *Daemonorops* in Sulawesi.

**Key Words:** *Daemonorops takanensis*, *Daemonorops mogeana*, Central Sulawesi, South Sulawesi.

### ABSTRAK

RUSTIAMI, H. 2009. Dua jenis baru *Daemonorops* dari Sulawesi. *Reinwardtia* 13(1): 25–30. — *Daemonorops mogeana* Rustiami dan *Daemonorops takanensis* Rustiami dipertelakan dan digambarkan berdasarkan spesimen yang dikoleksi berturut-turut dari Sulawesi Tengah dan Sulawesi Selatan. Kunci identifikasi marga *Daemonorops* di Sulawesi disusun untuk memperjelas perbedaan kedua jenis baru tersebut dengan jenis-jenis lain yang ada di Sulawesi.

**Kata Kunci:** *Daemonorops takanensis*, *Daemonorops mogeana*, Sulawesi Tengah, Sulawesi Selatan.

### INTRODUCTION

In the course of preparing a revision of the Rattans of Sulawesi, which so far consist of five species (Beccari 1911), I came across two peculiar unidentified rattans belonging to *Daemonorops*. These two species as other five species from Sulawesi, display all the key characteristics of the section *Piptospatha*, namely the pendulous inflorescence, the prophyll not enclosing whole inflorescence and subsequent bracts falling at anthesis. Herein, I name, describe and illustrate these species, *D. mogeana* Rustiami and *D. takanensis* Rustiami. *D. mogeana* is relatively similar to *D. macroptera*. In this paper I construct an identification key for whole species of *Daemonorops* in Sulawesi.

Key to the species in Sulawesi

1. a. Leaf sheath covered with rusty – brown coloured indumentum and armed with short, up to 10 mm long, easily detached spines .....*D. takanensis*  
b. Leaf sheath without indumentum and armed with long, more than 15 mm long, strongly attached spines..... 2
2. a. Leaf sheath armed with brittle, unequal solitary spines .....3  
b. Leaf sheath armed strongly with large, irregularly seriate spines.....5
3. a. Leaf sheath armed with solitary, black, brittle spines; ochrea present .....*D. lamprolepis*

- b. Leaf sheath armed with solitary or in groups of black spines; ochrea absent .....4
4. a. Leaf sheath armed with very densely long, solitary, hair-like spines.....*D. sarasinorum*  
b. Leaf sheath armed with short, scattered, seriate, needle like spines .....*D. riedeliana*
5. a. Leaf sheath armed with jointed bases, oblique spines; fruit spherical, endosperm deeply runcate .....*D. robusta*  
b. Leaf sheath armed with solitary to jointed bases, upright spines; fruit subglobose to ellipsoid, endosperm slightly to deeply runcate .....6
6. a. Leaf sheath densely armed with solitary, furfuraceous spines; fruit ellipsoid, endosperm deeply runcate .....*D. macroptera*  
b. Leaf sheath densely armed with groups of 3's – 5's, greyish spines; fruit subglobose, endosperm slightly runcate .....*D. mogeana*

*Daemonorops mogeana* Rustiami spec. nov. — Fig. 1 & Fig. 2.

*Daemonorops macroptera* affinis sed vaginis foliorum spinas robustas giganteas ferentibus et fructo acuto non ellipsoideo differt. — Type: Indonesia, Central Sulawesi, Kab. Poso, District Kulawi, Dusun Moa, Mt. Malemo, 1000 m alt., 21 October 1977, *JP Mogeana 1356*, fruiting specimen (BO-Holo).

Very large, robust, clustering rattan, climbing to 15 m. Sheathed stem 4 cm in diam., stem without

sheaths 2 cm in diam.; internodes 20 cm long. Leaf sheaths woody, creamy-yellow, densely armed with numerous broad spines, often with conspicuous bulbous bases, and arranged in groups of 3's–5's, flat, greyish, irregularly seriate, 1–7 cm long, 5 mm wide, intermixed with smaller and ascendant spines. Leaves very large up to 6 m long including petiole and cirrus; petiole very robust, 1 m long, 2 cm wide and 1 cm thick at base, rounded adaxially and abaxially, densely armed with, seriate or irregularly, erect, triangular, 1–3 cm long and up to 1 cm wide spines; rachis up to 3 m long, with similar triangular spines; leaflets large, 30 pairs on each side of rachis, regularly arranged, linear-lanceolate, acuminate, armed with small bristles, 5 mm long along the mid nerve on both surfaces and the apex; transverse veinlets conspicuous; middle leaflets 40 cm long; 2 cm broad, papyraceous, green and concolorous; apical leaflets to 20 cm long, 1.5 cm broad; cirrus to 2 m long, armed with 4–5-hooked grappels arranged 3 cm apart. Staminate and pistillate inflorescences not known. Infructescence ascending, to about 70 cm long, with 6 erect, very slender, cupressiform, partial infructescences, 5 cm apart; the main axis cylindrical, 20 cm long, armed with dense, glaucous, seriate spines, about 1–5 cm long, with bulbous bases, and covered with blackish brown indumentums; partial infructescence about 15 cm long bearing up to 10 unequal rachillae. Fruit sub globose, covered with 14 vertical rows of glossy yellowish scale, 8 mm long and 4 mm broad. Seed one, globose. Endosperm slightly ruminant.

**Habitat and Ecology.** This species is common in *Agathis* forest, beside streams on the slopes of G. Malemo, 1000 m alt.

**Distribution.** This species only known from the type locality.

**Uses.** Young shoot is edible and good.

**Vernacular name.** Uwi manis (umbut manis)

**Etymology.** I would like to dedicate this new species to the eminent palm expert from Indonesia Prof. Dr. Johanis Palar Mogeia who collected this species during his field work in Sulawesi.

**Notes.** This species has been identified as *Daemonorops macroptera* by Maturbongs (2001) because it is similar to this species morphologically. However after thorough study and careful examination this new species differs from *D. macroptera* by leaf-sheath armature where it has very robust, gigantic spines, fruit subglobose and slightly ruminant endosperm, whereas the latter has gigantic, fragile,

easily broken spines, and ellipsoidal fruit and deeply ruminant endosperm like common *Daemonorops* species from Sulawesi.

**Specimen examined.** Indonesia: Central Sulawesi, Kab. Poso, District Kulawi, Dusun Moa, Mt. Malemo, 1000 m alt., 21 October 1977, *JP Mogeia 1356*, fruiting specimen (BO).

*Daemonorops takanensis* Rustiami *spec. nov.* — Fig. 3.

Neo species of *Daemonorops* ad sectionem *Piptospatham* recognitus ab Takane-kane collis pertinens sed in spinis vaginae foliorum disposita differt. — Type: Indonesia, South Sulawesi, Kab. Mamuju, District Kaluku, Dusun Roa, Rantai Village, Kaluak, Bukit Takane-kane, 200 m alt., 06 February 1993, *Padmi Kramadibrata 028*, fruiting specimen (BO-Holo).

Slender, clustering rattan, climbing to 20 m. Sheathed stem 2 cm. in diam., without sheaths 1.5 cm in diam., internodes 20–30 cm long; leaf sheath dark green, covered with conspicuously rusty-brown coloured indumentum and armed with numerous very brittle, thin laminar, unequal, up to 1 cm long or even shorter, solitary, scattered, easily to detached, brown spines, with small bulbous bases; leaf sheath mouth densely armed with similar spines; knee present and conspicuous, 10 mm long, 20 mm wide, moderately armed. Leaves 3.5 m long including petiole and cirrus; petiole to 20 cm long, 10 mm wide and 8 mm thick at base, flat adaxially, rounded abaxially, with acute edges, covered slightly with rusty-brown indumentum, as on sheath, armed with numerous short triangular spines; rachis up to 1.8 m long, armed with very short, erect, slender, triangular claws, that become ternate near the apex and 5-nate and half whorled on the cirrus; cirrus to 150 cm long; leaflets numerous, 55 pairs on each side of rachis, regularly arranged, linear-lanceolate, acuminate, armed with bristles to 5 mm long along the midrib of both surfaces; transverse veinlets minute; basal leaflets 34 cm long and 8 mm broad, middle leaflets 35 cm long and 1 cm broad, apical leaflets to 20 cm long and 8 mm broad. Staminate and pistillate inflorescences not known. Infructescence pendulous, up to 50 cm long, consisting of 4 partial infructescence, 5 cm apart; peduncle 10 cm long; partial infructescence to 8 cm long bearing to 10 rachillae. Fruit ellipsoid with a short conical beaked, pale, covered with 15 vertical rows of scale, 15 mm long and 10 mm broad. Seed one, ellipsoid. Endospermae deeply ruminant.

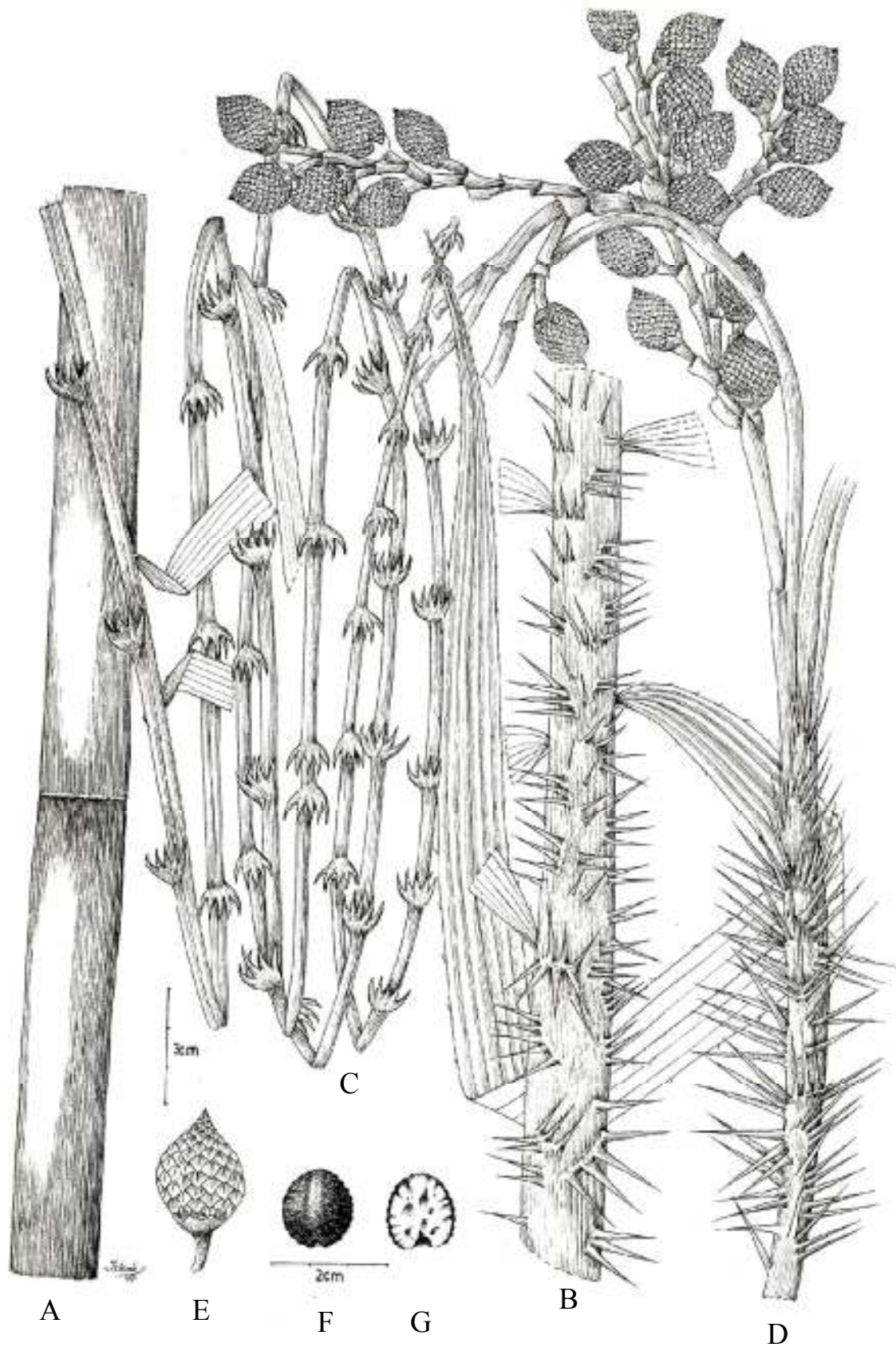


Fig. 1. *Daemonorops mogeana* Rustiami. A. Portion of cane  $\times \frac{1}{2}$ ; B. Mid portion of leaf, abaxial view  $\times \frac{1}{2}$ ; C. Leaf tip and cirrus  $\times \frac{1}{2}$ ; D. Portion of infructescence  $\times \frac{1}{2}$ ; E. Fruit  $\times 1$ ; F. Seed  $\times \frac{1}{2}$ ; G. Seed in longitudinal section  $\times \frac{1}{2}$ . After J.P. Mogeia 1356, drawn by Iskak Samsudin.

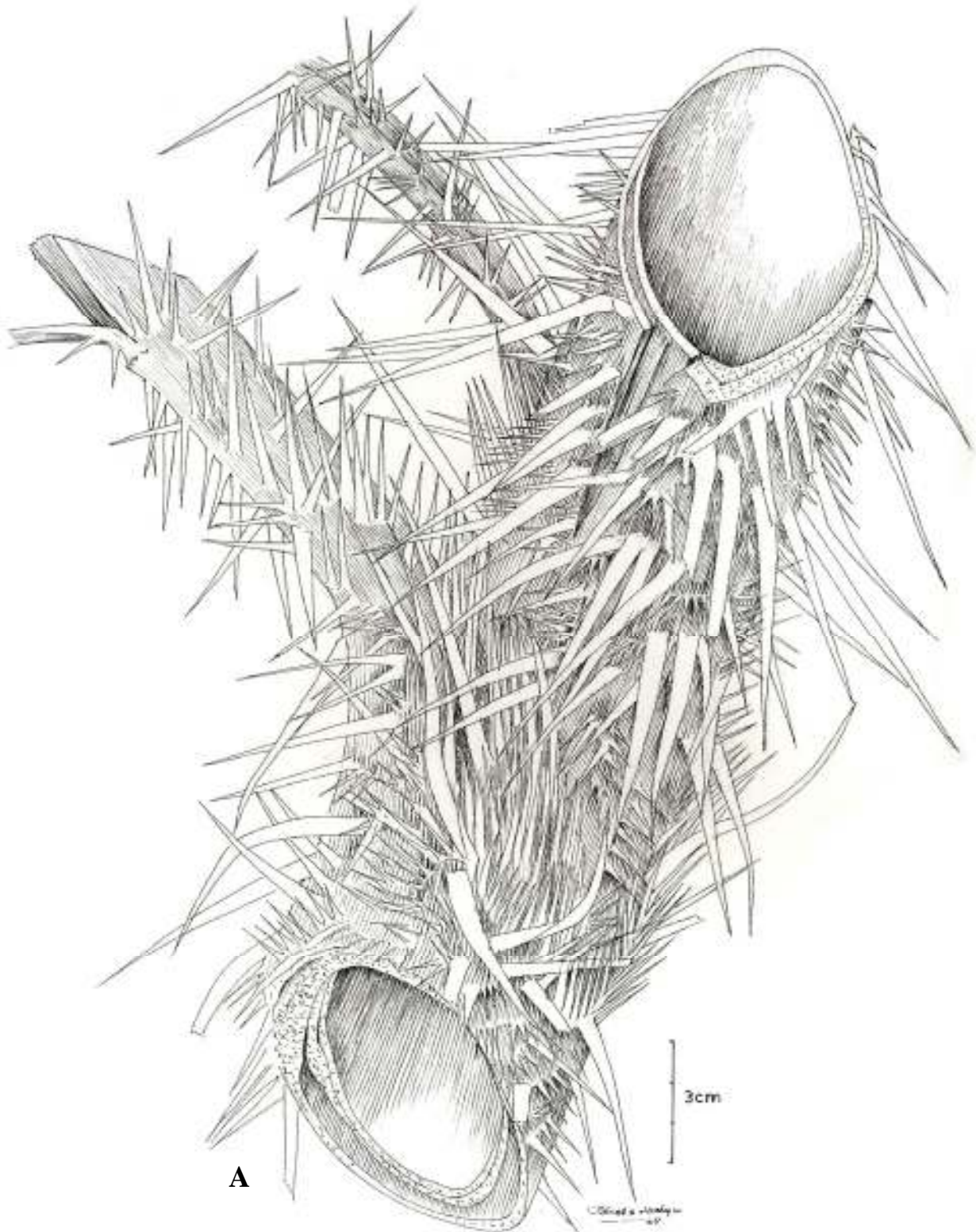


Fig. 2. *Daemonorops mogeana* Rustiami. A. Leaf sheath armature. After J.P. Moge 1356, drawn by Iskak Samsudin and Wahyudi Santoso

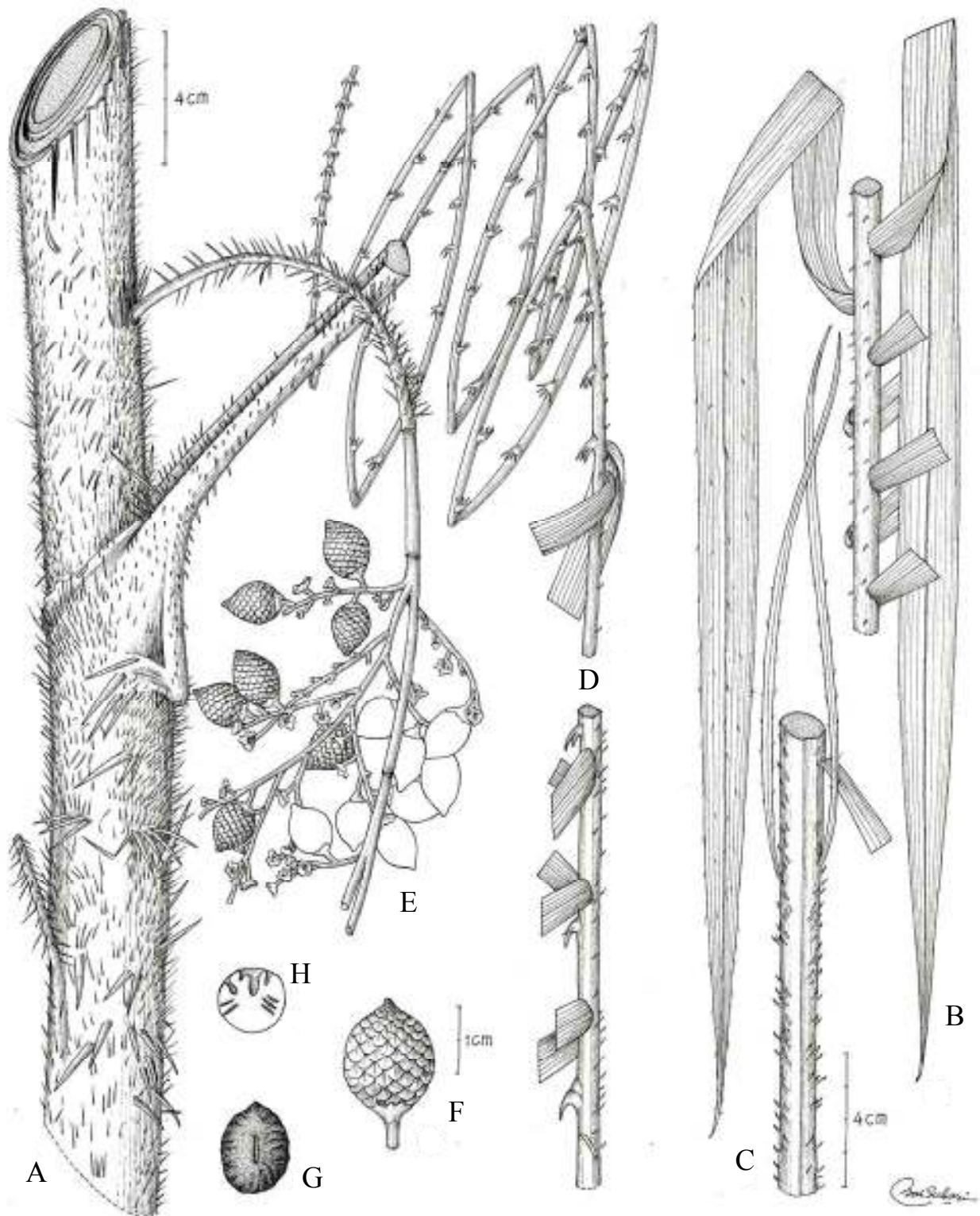


Fig. 3. *Daemonorops takanensis* Rustiami. A. Portion of leafsheath x  $\frac{1}{2}$ ; B. Mid portion of leaf, abaxial view x  $\frac{1}{2}$ ; C. Basal portion of leaf x  $\frac{1}{2}$ ; D. Leaf tip and cirrus x  $\frac{1}{2}$ ; E. Portion of infructescence x  $\frac{1}{2}$ ; F. Fruit x 1; G. Seed x 1; H. Seed in longitudinal section x 1. After Padi Kramadibrata 028, drawn by Subari.

**Distribution.** Known from the type locality only.

**Habitat and ecology.** Disturbed primary forest on hill slope.

**Uses.** Not recorded.

**Vernacular name.** Rotan Api.

**Etymology.** The epithet name is after the locality Takane-kane where the plant was collected.

**Notes.** This new species can be recognized easily by its leaf sheath dark green, covered with conspicuously rusty – brown coloured indumentum and armed with numerous very brittle, thin laminar, unequal, up to 1 cm long or even shorter, solitary, scattered, easily to detached, brown spines, with small bulbous bases. So far this species is only known from the type locality, Bukit Takane-kane.

**Specimens examined.** Indonesia, South Sulawesi, Kab. Mamuju, District Kaluku, Dusun Roa, Rantai Village, Kaluak, Bukit Takane-kane, 200 m alt., 06 February 1993, *Padmi Kramadibrata 028*, fruiting specimen (BO).

#### ACKNOWLEDGEMENTS

I would like to thank the STORMA IPB for part sponsorship of my study. I would also like to thank Dr John Dransfield and Dr Johanis Palar Mogeia for their wise guidance during preparation of the manuscript and the revision of *Daemonorops* in Sulawesi. I should like to thank Prof. Dr. Mien A. Rifai for reading the first draft. Mr. Iskak Samsudin, Mr. Sobari and Mr Wahyudi Santoso, of Herbarium Bogoriense prepared the figures.

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