

Short Communication

Notes on *Cycas truncata* de Laub. and related matters.

K.D. Hill and L.C. Stanberg

National Herbarium of New South Wales, Royal Botanic Gardens, Mrs Macquaries Road, Sydney 2000, Australia.

In December 2007, de Laubenfels published a new species of *Cycas* from the Philippines: *C. truncata*. He placed several *Cycas* names in synonymy under this new species: *C. inermis* Lour. ('nomen illeg., given in syn. *C. revoluta*'); *C. circinales* [sic] auct. non L.; *C. rumphii* auct. non Miq.; *C. media* auct. non R. Br.; *C. silvestris* auct. non Hill and *C. riuminiana* auct. non Porte. In our opinion this paper did not deal adequately with a number of issues, the most significant of which was de Laubenfels' interpretation of de Loureiro's Latin description of *C. inermis*. We believe that de Laubenfels was in error when he stated that de Loureiro considered *C. inermis* to be a synonym of *C. revoluta*. This and several other matters arising from his 2007 publication are discussed briefly below.

Validity of the name *C. inermis* Lour., Fl. Cochinch., ed. 1, 2: 632 (1790).

C. inermis Lour. is a validly and legitimately published name in Edition 1 of Flora Cochinchinensis (1790) with an extant specimen housed by the BM that could reasonably be taken to be the Holotype (see Hill et al. 2004). Following the description of *C. inermis*, de Loureiro states:

"*Cycas circinalis*. Jacq. Ac. Helver. tom. 8. pag. 59. tab. 2. *Cycas revoluta*. Thunb. Jap. pag. 229. *Olus Calapoides*. Rumph. Amb. I. 1. cap. 20. tab. 20, 21, 22, 23, 24. *Quamvis figurae Rumphianae aliquantum differant, sicut etiam descriptiones Jacquini, & Thunbergii, puto pro diversis speciebus non habendas: nec etiam nostram, licet semper inermem invenerim, in quo ab illis dissidet. Ramosam nunquam videri, nec Monoicam.*"¹

We contend that Loureiro's mention of *C. revoluta*, along with the two other species of *Cycas* known at the time (*C. circinalis* and Rumphius' "*Olus Calapoides*", now known as *C. rumphii*), was to compare and contrast the already-published cycads with his new species. In fact, Loureiro's Latin comments indicate that he considered that these three were not sufficiently distinct to justify them being separate species. He clearly states that his new taxon, *C. inermis*, differs from all of them by being consistently unarmed but does not specify the unarmed organs. The citation of the name *C. inermis* in synonymy with *C. truncata* by de Laubenfels renders the latter name illegitimate (Article 52.2, Ex. 2, McNeill et. al. 2006), even though the author of *C. truncata* considers the name *C. inermis* to be invalid.

Hill et al. (2004) applied the name *C. inermis* to a taxon occurring in the foothills of southern and central Vietnam. This is a widespread taxon in Vietnam, related most

¹ Translation from the Latin: "Although the Rumphian figures [there are 5 cited] may differ by only a little, similarly I do not think the descriptions of Jacquin and Thunberg should be considered as separate species; not so ours [i.e., *C. inermis*], granted that I have always found it unarmed, in which [feature] it disagrees with them. I have never seen it branching, nor monoecious."

closely to *C. macrocarpa* from Thailand and peninsular Malaysia. It is not considered to be part of or related to *C. silvestris* (regarded as an Australian endemic), or to occur in the Philippines. The illegitimacy of the name *C. truncata* thus leaves *C. inermis* (sensu Hill et al. 2004), *C. macrocarpa* (Hill & Yang 1999) and *C. silvestris* (Hill 1992, 1996) as valid taxa.

Does an undescribed taxon exist in Northern Luzon?

The description of *Cycas truncata* by de Laubenfels (2007) is problematic in a number of respects.

In the Latin description of *C. truncata*, de Laubenfels states “*Margines apicum microsporophyllorum denticulatum [sic] ad 5 mm longum*”. This does not fit with the dimensions given in the English description: “*Microsporophylls 15-22 mm wide, sharply truncated at the apex but raised slightly towards the center with a narrow sterile zone and with a spike 10-23 mm long*”. Furthermore, the previously published illustrations referred to by de Laubenfels do not adequately illustrate *C. truncata*. The Amoroso (1986) illustrations are apparently from a range of material (Amoroso 1986, table 1), and the individual illustrations (Figs. 7-9, 27-30) are not linked to herbarium specimens. The Hill et al. (2004) Fig. 17 refers to *C. inermis* sens. strict.

Apart from the designated type (*Merrill 3257*), no naturally occurring specimens are formally cited by de Laubenfels (2007), although one cultivated specimen is mentioned (*E.D. Merrill Species Blancoanae 855*). As a result, the logical conclusion one is forced to draw from de Laubenfels (2007) is that all of the previously cited material of *C. silvestris* (de Laubenfels & Adema 1998) falling within the geographic range now quoted for *C. truncata*, actually belongs to the concept of *C. truncata* presented. The majority of material cited as belonging to *C. silvestris* by de Laubenfels and Adema (1998) is here thought to represent several taxa from a number of countries (Table 1). Some specimens could not be located (Table 2). This leaves a ‘core’ of remaining specimens (Table 3), including the designated type of the name *C. truncata* (*Merrill 3257*). These specimens are from populations occurring in northern Luzon, a region where specimens cited and plants seen (Lindstrom et al. 2008) can be placed in either *C. riuminiana* or the recently described *C. zambalensis*. Our assessment of this core of remaining specimens (Table 3) is that they all fall into the character range of *C. riuminiana*.

This highlights the need for further taxonomic study, particularly in The Philippines. Although several new species have recently been enumerated (Madulid and Agoo 2005, Lindstrom et al. 2008), novelties may be anticipated, especially from the south-eastern Philippines (Mindoro and southern Luzon through to and including Mindanao). This area suffers considerable political unrest and substantial human impact (through clearing and farming), making the field work which would be required difficult.

Acknowledgments

Dennis Stevenson is gratefully thanked for his constructive comments on the manuscript, his translation of the Latin descriptions in *Flora Cochinchinensis* eds. 1 & 2 and for images of Merrill specimens held at NY. Peter Wilson is thanked for his helpful comments and his translation of the Latin description in *Fl. Cochinch.* Karen Wilson is also thanked for her Latin translation. We would also like to thank the following people for images of specimens: Jeremy Bruhl (while Australian Botanical

Table 1. Collections cited by de Laubenfels & Adema (1998) as *C. silvestris* but here thought to belong to other taxa.

Collection cited by de Laubenfels & Adema (1998)	K.D. Hill determinavit	Collection Locality	Herbarium duplicates viewed by K.D. Hill
Backer 50	<i>C. edentata</i>	Eile Krakatoa, Indonesia	L
v.BorssumWaalkes 523	<i>C. edentata</i>	Pulau Panaitan, Tg Manik, beach, West Java, Indonesia	BO, L
Chai SAN 29392	<i>C. edentata</i>	Mt Silamarea, Lahad Datu distr., Sabah, Malaysia	K ex SAN
Curran 3842	<i>C. curranii</i>	[type], Molinao River, on river bank, Palawan, Philippines	K, P
d.v.Leeuwijn 1881	<i>C. rumphii</i>	Saleier group[?Salayar]: 2nd Saleier, zandige kust, South Sulawesi, Indonesia	BO
Edano 76373	<i>C. vespertilio</i>	Panagan River, Camarines Sur, southern Luzon, Philippines	BO, G, NY
Eyma 3727	<i>C. rumphii</i>	Tobelombang, Loewoek, Manado North Sulawesi, Indonesia	BO, L
Fosberg 32376	<i>C. rumphii</i> group?	E. coast of Babeldaob Isl., Palau Group, Palau	L
Kondo & Edano 36768	<i>C. vespertilio</i>	Gigantangan, Leyte, Philippines	L
Noerkas 481	<i>C. rumphii</i>	Tapalang, Celebes [South Sulawesi], Indonesia	BO, K, L,
Podzorski SMHI 2119	<i>C. curranii</i>	Narra, Mt Victoria, Trident Mining Co area, alluvial fan at base of ultrabasic mountain, Palawan, Philippines	L
Ramos & Edano 48953	<i>C. lacrimans</i>	[type] Davao, Mati, Mindanao, Philippines	BM, BO, NY, P

Table 2. Collections cited by de Laubenfels & Adema (1998) as *C. silvestris* but authors (KDH & LCS) unable to locate.

Cardona 23870
Curran 7381
Gressit 21 p.p.
Ramos 3281

Table 3. Collections cited by de Laubenfels & Adema (1998) as *C. silvestris* from the now designated type locality of *C. truncata*.

Collection cited by de Laubenfels & Adema (1998)	K.D. Hill determinavit	Collection Locality	Herbarium duplicates viewed by K.D. Hill
Curran 7513	<i>C. riuminiana</i>	Lamas [?Lamao], Luzon. Philippines	K
Merrill [Species Blancoanae] 855	<i>C. riuminiana</i>	cult Manila, Philippines	A, BM, BO, K, L, NSW, NY
Merrill 3257	<i>C. riuminiana</i>	Lamao R., Mt Mariveles, Luzon, Philippines (designated type of <i>C. truncata</i>)	BM, K, NY, P, US
Whitford 1235	<i>C. riuminiana</i>	Lamao River, Luzon, Philippines	K, NY

Liason Officer at K), Ciarán Moloney (NY), John Boggan (US) John Hunnax (BM) and Luc Willemse (L). Anders Lindstrom is thanked for drawing our attention to the *Encephalartos* publication and Wynand van Eeden is also thanked for his assistance in sending us the pdf file of this article at short notice.

References

- Amoroso VB (1986) Morphological study of the sporophylls of Philippine *Cycas*. *Philippine Journal of Science* 115(3): 177–198.
- De Laubenfels DJ (2007) *Cycas truncata* de Laub., a long-known but not validly named species. *Encephalartos* 92: 17.
- De Laubenfels DJ & Adema F (1998) A taxonomic revision of the genera *Cycas* and *Epicycas* gen. nov. (Cycadaceae). *Blumea* 43: 351–400.
- De Loureiro J (1790) *Flora Cochinchinensis*, vol. 2, edition 1: 632. (Ulyssipone [Lisbon]: Typis, et expensis academicis).
- De Loureiro J (1793) *Flora Cochinchinensis*, vol. 2, edition 2: 776–777. (Ulyssipone [Lisbon]: Typis, et expensis academicis)
- Hill KD (1992) A preliminary account of *Cycas* (Cycadaceae) in Queensland. *Telopea* 5: 177–205.
- Hill KD (1996) A taxonomic revision of the genus *Cycas* (Cycadaceae) in Australia. *Telopea* 7: 1–64.
- Hill KD, Nguyen HT & Phan LK (2004) The genus *Cycas* (Cycadaceae) in Vietnam. *The Botanical Review*. 70(2):134–193.
- Hill KD & Yang SL (1999) The genus *Cycas* (Cycadaceae) in Thailand. *Brittonia* 51: 48–73.
- Lindstrom AJ, Hill KD & Stanberg LC (2008) Notes on the species of *Cycas* (Cycadaceae) from the Philippines. *Telopea* 12(1): 119–145.
- Madulid DA & Agoo FAM (2005) A new species of *Cycas* (Cycadaceae) from the Philippines. *Blumea* 50(3): 510–522.
- McNeill J, Barrie FR, Burdet H-M, Demoulin V, Hawksworth DL, Marhold K, Nicholson DH, Prado J, Silva PC, Skog JE, Wiersema JH & Turland NJ (2006) *International Code of Botanical Nomenclature (Vienna)*, adopted by the Seventeenth International Botanical Congress, Vienna, Austria, July 2005. *Regnum Vegetabile* 146. (Gantner: Ruggell)