Curcuma zedoaria

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My previous notes on the nomenclature of *Curcuma zedoaria* (Notes Roy. Bot. Gard. Edinburgh, 31: 226. 1972) were inaccurate. At that time I pointed out, correctly, that "*Amomum zedoaria* Berg.", which is always cited as the basionym of *Curcuma zedoaria*, has no existence as a binomial. I then said that the first valid publication of the name *Amomum zedoaria* was by Plenck in 1789, by which time the plant had already been named *A. latifolium* by Lamarck (1783). Where I, and others, have erred till now is in failing to notice that *Amomum zedoaria* was validly published in the German version of Houttuyn's *Natuurlijke Historie* by Christmann & Panzer (1779). Details of this work and its relation to Houttuyn's original publication are given by Merrill (in Journ. Arn. Arb. 19: 291. 1938). Briefly, the important point for our present purpose is that the work by Christmann & Panzer is not a literal German translation from Houttuyn: it incorporates both changes and new matter. Merrill listed all the new names he observed, but unfortunately *Amomum zedoaria* in the German version escaped him, and, not having the original work at hand, this helped to lull me into a sense of security. Although the work as a whole may be attributed to Christmann & Panzer, Merrill showed that new names appearing in volumes 1-7 should be attributed solely to Christmann.

Christmann cites a number of authors under *Amomum zedoaria*: Bergius, Rheede, Rumphius, Petiver and others. It is the description by Rheede under the name Kua which gives the most detailed and reliable account of this plant: this was cited by Bergius at the head of his references and formed the basis of Lamarck's *Amomum latifolium* and it is Rheede's illustration of it that was redrawn for Plenck's plate. There is every reason for taking this reference as the "lectotype" of the name *Amomum zedoaria* Christm., and this I accordingly propose.

Amomum zedoaria was published by Christmann in 1779 and it thus provides the earliest valid post-Linnaean epithet for a *Curcuma*. Its transfer to that genus may still be attributed to Roscoe, for Roscoe cites Willdenow and Willdenow gives the reference "Houtt. Linn. Syst. 5, p. 12" which proves to refer to the German edition of Christmann & Panzer. It may be noted that in Houttuyn's original Dutch edition (Handl. Pl. Kruidk. 7: 10. 1777) zedoary is referred to *Amomum zerumbeth*, which is *Zingiber zerumbet* (L.) Roscoe.

As the basis for the name *Curcuma zedoaria* is Rheede's description and plate it has seemed not without interest to supply a translation and reproduction.

Kua

Plate VII

Kua, in Brahmi *Acua*, is the special and common name for all those plants that ought to be referred to species of ginger; they are eight in number. *Kua, Tsjana Kua, Mallan Kua, Manga Kua, Mangella Kua, Intsyi Kua, Katou-Intsyi Kua.* The first species likes all soils, especially the sandy ones in which it grows

spontaneously and spreads. The rhizome runs out horizontally from a single centre, white, thick, tuberous, with slender fibrous rootlets here and there, firm, run through with many whitish threads [i.e. vascular bundles], with glabrous skin; it is divided along its length into tuberous segments about two fingers thick and a span [c. 19 *cm*] long, branched, and filled with a clear juice. The taste is sharp, pinching the tongue, irritant, aromatic. The scent is strong and pleasant as if many aromas were mixed together. The leaves arise from the ends of the rhizome, up to a cubit [c. 46 *cm*] long and two spans [c. 38 *cm*] wide in the middle; acuminate at the tip, narrowed at the base, with a prominent midrib; this sends out many lateral veins, running transversely forward, equally spaced; they disappear at the extreme edge where they embrace the margin of the leaf with finer veinlets; the inner part of the leaf is somewhat folded and reflexed, marked with grooves. The colour on the inner part is dark, on the outer paler. For the rest the leaves are glabrous, shining, clear. The stems are a foot and a half high, full of greenish pith, but no shoots are to be seen on them; however, from the rhizome a special flowering stem arises, covered by a number of long leafy scales very closely enfolding it; and these leaves are more than a digit long, broadened upwards and then again contracted to a small point, with the tips bent back from the scape; they are glabrous with slender longitudinal veinlets which, unless they be broken, are nearly invisible; the lower ones are green, the middle ones yellow, the upper red purple or light blue, the uppermost becoming almost white, pretty, sweet-smelling, and tasting like the root. The flowers are produced in the gaps between the scales [i.e. bracts], 2 or 3 at a time, bell-shaped, the lower part and inside whitish, thin, enclosed in a transparent membrane [i.e. calyx], 6-petalled [i.e. with 3 petals and 3 petaloid staminodes] the upper one pellucid, shaped like a helmet, erect; they are yellow and white, folded, and scarcely to be seen unless the whole flower is separated from the stem and in turn taken apart itself, when one is seen to be bent down to a fimbriate margin; in the middle the flower produces a thread [i.e. the style] provided with a spur like a dragon's head, and recalling a little winged bird with erect tail [this refers to the spurred anther between the lobes of which the upper part of the style is held]. The scent is pleasant, but when the flowers are broken from the pouch and bruised between the fingers they have a similar smell to the leaves, and a rather bitter flavour. The seed capsules are small and round, depressed, and contain grey seeds like those of *Tsjana Kua*, but they are rarely found. The rhizome is long persistent; the leaves die down and shoot forth again in July and August. The grated roots, washed several times, leave a flour much valued by the indigenous peoples who make a porrage from it. A potion of bruised root and fresh juice arrests all inflammation of the intestines, purges the kidneys, stops white flux, cures gonorrhea and purges the blood. The juice of the leaves is drunk by people with dropsy, it takes away the swelling of the abdomen, is a moderate laxative, and expels the viscid slime of the intestines.

[Footnote by Commelin.] *Kua*, according to the opinion of the illustrious Paul Hermann is the garden *Zerumbeth* of Garcia [da Orta], whose description like that of the Arabic authors is rather obscure; by the Singhalese it is called *Walinghura*, that is wild ginger, the Malabars call it *Kua*. The opinion of Hermann agrees very closely with that of our author.

The other plants mentioned by their local names, of which the spelling varies slightly in different parts of the work, are:—

Tsjana Kua — Costus speciosus (Koenig) Sm.
Mallan Kua — Kaempferia rotunda L.
Manga Kua — Boesenbergia rotunda (L.) Mansf.
Mangella Kua — Curcuma longa L.
Intsyi Kua — Zingiber officinale (L.) Rosc.
Katou-Intsyi Kua — Zingiber zerumbet (L.) Rosc.
Mala-Intsyi Kua — Alpinia allughas (Retz.) Rosc.


Kúa Lat
Mal
Kúa
कुवा bram
قحوا Arab

Rheede's description does not, of course, give the precise technical detail that we look for to-day; for that we turn to Holttum's account of the Zingiberaceae of the Malay Peninsula (this Bulletin, 13: 71. 1950). Rheede, however, supplies a remarkably vivid account of a plant whose whole structure was a novelty at that time. It has not seemed justifiable to reprint the original latin, but those interested in the development of botanical terminology may be interested to note that in it *calyx* refers to the cup or pouch formed by the bract, *filamentum* to the thread-like style, and *pollen* to the flour obtained from the root.

I have referred throughout to Rheede. Hendryk van Rheede tot Draakestein was appointed Governor of the Dutch possession in Malabar in 1667. He organized the bringing together of the materials that were sent back to Holland and published as the Hortus Malabaricus. Burkill (Chap. Hist. Bot. India, pp. 6–7, 1965) tells us that the drawings were made by an artist-missionary Matthaeus, that the accounts of the plants were rendered into Portuguese by an interpreter and thence into latin by the secretary of the local government Hermann van Doner. Then drawings and descriptions were assembled by Johannes Casearius and were sent to Holland for publication, where they were edited partly by A. Seyn but largely, after Seyn's death, by J. Commelin who was in charge of the Hortus Medicus at Amsterdam.

Curcuma zedoaria is a species that has been in cultivation for a very long time and its natural origin has never been precisely established. This is a particularly difficult problem as it very easily becomes naturalized. In fact it is on record that although *C. zedoaria* very rarely flowers under conditions of cultivation, it does so freely where it runs wild. It is now found in most parts of India and south-east Asia. Like other members of the genus it dies down completely after flowering and has a resting phase: which at least suggests that its origin was in the monsoon areas rather than in Malaya. If, as often stated, it originated in N. E. India, this would be a good focal point for its spread south into peninsular India, east to China and SE to Malaya.

Synonymy and useful references are detailed below; those appearing in square brackets are not nomenclaturally valid names.

Curcuma zedoaria (Christm.) Roscoe in Trans. Linn. Soc. 8: 354 (1807) et Monandr. Pl. Scitam. t. 109 (1825); Horan., Monogr. Scit. 23 (1862); Baker in Hook. f., Fl. Brit. Ind. 6: 210 (1890); Trimen, Handb. Fl. Ceylon, 4: 241 (1898); K. Schum., Pflanzenr. Zingiber. 110 (1904); Gagnepain in Lecomte, Fl. Gen. Ind. Chin. 6: 67 (1908); Merrill, Enum. Phil. Fl. Pl. 1: 243 (1924) et in Trans. Amer. Phil. Soc. N.S. 24 pt. 2: 119 (1938); Burkill, Dict. Econ. Prod. Mal. Pen. 714 (1935); Holttum in Gard. Bull. Singapore 13: 71, fig. 5 (1950); Wealth of India 2: 405 (1950); Backer & Bakh. f., Fl. Java, 3: 71, 72 (1968).

Syn: [*Kua* Rheede, Hort. Malab. 11: 13, t. 7 (1692)]

[*Zedoaria* Camellus, Herb. Stirp. Luzon, Syll. 23 No. 9 in Ray, Hist. Pl. 3 App. (1704).]

[*Zedoaria officinarum* Petiver, Gagophyl. Nat. dec. 3, 5, tab. 23 f. 1 (1704–6?).]

[*Zerumbed vel Tommon* [*primum*] Rumph., Herb. Amboin. 5: 169 excl. t. 68 (1747) — fide Valeton in Merrill, Interp. Herb. Amboin. 164 (1917).]

[*Amomum scapo nudo, spica laxa truncata* Bergius, Mat. Med. 4 (1778), ed. 2, 4 (1782).]

Amomum zedoaria Christm. in Christm. & Panzer, Linn. Pflanzensyst. 5: 12 (1779); Plenck, Ic. Pl. Med. 2: 12, t. 11 (1789); Willd., Sp. Pl. 1: 7 (1797).

Amomum latifolium Lam., Encycl. 1: 134 (1783). Type: *Kua* Rheede.

Curcuma pallida Lour., Fl. Coch. 9 (1790) et ed. Willd. 12 (1793). Type: "in agrestis in Cochinchina et Cantone Sinarum" (no specimen known).

Curcuma zerumbet Roxb. in Asiat. Research. 11: 332 (1810) et Pl. Coromand. 3, t. 201 (1819); Alston in Trimen, Handb. Fl. Ceylon Suppl. 281 (1931); Burtt & Smith in Notes R.B.G. Edin. 31: 203 (1972) sub *Curcuma* (*Erndlia subpersonata* Giseke); nom. illegit.

Curcuma speciosa Link, Enum. Pl. Hort. Berol. 1: 5 (1821); nom. illegit.