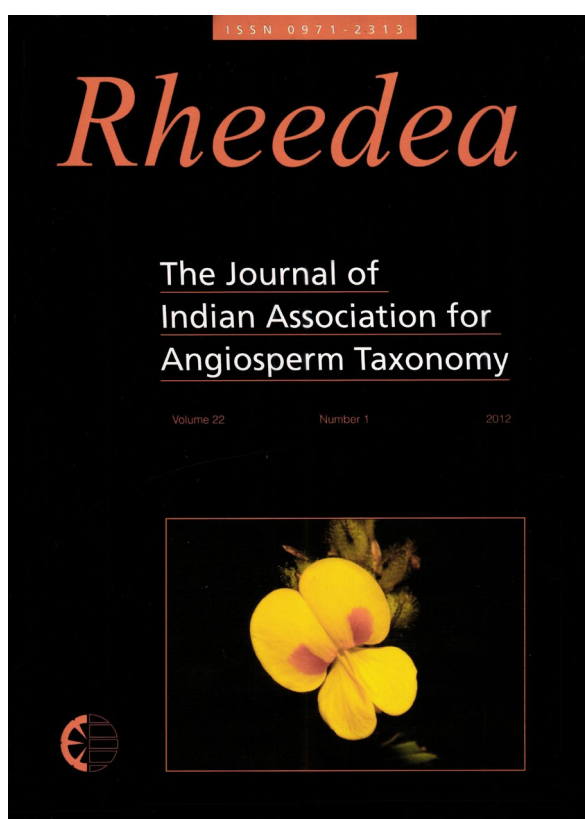




## *Alpinia costatum* or *A. cardamomum-medium* (Zingiberaceae), an enigmatic species from Bangladesh

Veldkamp J.F.



How to cite:

**Veldkamp J.F. 2012.** *Alpinia costatum* or *A. cardamomum-medium* (Zingiberaceae), an enigmatic species from Bangladesh. *Rheedia* 22(1): 1-4.

<https://dx.doi.org/10.22244/rheedia.2012.22.01.01>

Received: 13.05.2010

Revised and accepted: 08.09.2011

Published in print: 30.06.2012

Published Online: 30.06.2012



# *Alpinia costatum* or *A. cardamomum-medium* (Zingiberaceae), an enigmatic species from Bangladesh

J.F. Veldkamp

Netherlands Centre for Biodiversity - Naturalis, Section National Herbarium of The Netherlands, Leiden University, PO Box 9514, 2300 RA Leiden, The Netherlands.  
E-mail: veldkamp@nhn.leidenuniv.nl

## Abstract

A nomenclatural history of *Alpinia costata* Roxb. = *A. cardamomum-medium* Roxb. (Zingiberaceae) originally described from Bangladesh is presented.

**Keywords:** *Achasma*, *Alpinia*, *Amomum*, Bangladesh, *Cardamomum*, *Elettaria*, *Gethyra*, *Hornstedtia*, Nomenclature, *Renealmia*, Zingiberaceae

## Introduction

More or less simultaneously, posthumously, Roxburgh published the names *Alpinia costata* Roxb. [1820a (18 Feb.)] and *A. cardamomum-medium* Roxb. [1820b (Jan. – Jun.)]. In his manuscripts and publications (1814, 1820b, 1832) he used the epithet “*cardamomum medium*”, and I suspect that Banks (the editor of the “Plants of the Coast of Coromandel”) changed it either because it seemed too much like a phrase name or to avoid confusion with the simultaneously published name *A. cardamomum* Roxb.

This combination is valid, though, as Roxburgh adhered to Linnean binomial nomenclature, and the apparent “lapse” here is correctable under Art. 23.2. Ex. 1 (*Atropa bella-donna*, *Adiantum capillus-veneris*) and 23.6(c). Ex. 16 (*Rhamnus vitis-idaea*, *Anthyllis barba-jovis*, *Hyacinthus non-scriptus*, *Impatiens noli-tangere*) (McNeill *et al.*, 2006). All but one of these names is Linnean, but there is no statement that these Articles apply to these only, while the inclusion of *Rhamnus vitis-idaea* Burm.f. makes the Articles also applicable to non-Linnean epithets, such as here. The correct orthography then is *Alpinia cardamomum-medium* (with a hyphen).

That both are the same species and homotypic is clear: the descriptions are nearly identical, except that the one in the “Plants of the Coast of Coromandel” is a bit longer. The plate there is labelled *A. costata*, but the original drawings in CAL and K (Icon. Ined. No. 2161) bear the name “*Alpinia cardamomum-medium* R.” (in K with the hyphen, but in CAL without). The illustration in K (Fig. 1) was the base for the plate in the Plants of Coromandel,

but the CAL one seems to be the more complete one as it shows the outline of a leaf, and is shown here (Fig. 2).

It is most unlikely that the two publications appeared exactly on the same day, nevertheless a choice must be made. On one side one is tempted to accept Roxburgh’s own intentions, *A. cardamomum-medium*, but subsequent authors have followed Banks’s change to *A. costata*. This seems a case for Pre. 10, and “established custom” should be followed. All combinations with the epithet “*cardamomum-medium*” thus become incorrect, as they were validly published and by lack of further evidence on the exact date of publication legitimate.

If considered as simultaneously published, Voigt (1845: 568) seems too have been the first to include both under *Elettaria costata* (Roxb.) Voigt, and his choice under Art. 11.5 then should be followed.

As a minor point, Sweet (1826, 1830) listed *Gethyra cardamomum-medium* and *Renealmia cardamomum-medium*, respectively, without any reference. The epithet is unique and the names above and below it have the reference “F.I.”, i.e. to Roxburgh’s “Flora indica” where all three appeared. It seems to me that the reference was omitted here because of the typography used by Sweet. Because of this indirect evidence I consider the combinations as valid and legitimate.

This is apparently a very rare species, as several authors and current correspondents reported never to have seen any specimen of it. No Roxburgh specimen is on record. Poulsen (E, *in*



Fig. 1. *Alpinia cardamomum-medium*. Roxb., Icon Ined. No. 2161 (K). Note the hyphen! (Reproduced with the kind permission of the Director and the Board of Trustees, Royal Botanic Gardens, Kew).



Fig. 2. *Alpinia cardamomum-medium*. Roxb., Icon Ined. No. 2161 (CAL). Note absence of hyphen! (Reproduced with the kind permission of the Director of the Botanical Survey of India, Kolkata).

*litt.*) was of the opinion that the fruit illustrated in Roxburgh's plate is likely to be of an *Amomum* but would not rule out that the flower is perhaps that of an *Etlingera* Giseke. Mood (*in litt.*) thought an *Amomum* is most likely and not an *Etlingera*, nor an *Hornstedtia*, either. A judicious lectotypification then seems in order, but Poulsen couldn't identify either element. Yet, even in the absence of any material and based only on the description and plate audacious authors have placed it in 7 other genera. To make a new combination in *Etlingera*, as one of my correspondents suggested, seems premature: first supporting material must be seen.

Why Roxburgh thought that this was the *Cardamomum medium* of "the writers of *Materia Medica*", suggesting that it would be fairly common, is not clear to me. I have not found an explanation of this in e.g. Burkill (1935: 131 – 137, 910 – 912), who discusses all kinds of cultivars in e.g. Africa, Sri Lanka, India, Indochina, and Java, and Kirtikar *et al.* (1935: 2415 – 2449) on Indian medicinal plants. But then I have an insufficient overview of pharmaceutical

treatises in Bangladesh and India. It is not found in the more specialised treatments of *Alpinia* by Tripathi (2002) for northeast India nor in Yusuf *et al.* (1999) for Bangladesh. Possibly they followed Jain & Prakash (1995) who recorded it as *Hornstedtia costata* for the Eastern Himalaya region, Nagaland, and Bangladesh. What their reasons were for these additional localities was not explained. Dr. Ved Prakash died in 2000 and Dr. Jain had no records (*in litt.*).

By lack of consensus about the generic disposition of this species, the synonymy below is chronological.

***Alpinia costata*** Roxb., Pl. Coromandel 3: 48, t. 252. 1820a (18 Feb.). *A. cardamomum-medium* Roxb., Hort. Bengal.: 2. 1814, nom. nud. ("*Alpinia C. medium*"); Fl. Ind. 1: 72. 1820b (Jan. – Jun.); Fl. Ind. 1: 74. 1832, nom. superfl. *Elettaria? cardamomum-medium* (Roxb.) Schult., Mant. 1: 24. 1822; O'Shaughn., Bengal Dispensatory: 651. 1841, (n.v.: isonym?). *Alpinia media* Spreng., Syst. Veg. 1: 14.

1825, nom. superfl. *Gethyra cardamomum-medium* (Roxb.) Sweet, Hort. Brit.: 390. 1826. *Renealmia cardamomum-medium* (Roxb.) Sweet, Hort. Brit. ed. 2: 493. 1830. *Elettaria costata* (Roxb.) Voigt, Hort. Suburb. Calcutt.: 568. 1845; Horan., Prodr. Monogr. Scitam.: 31. 1862, isonym (incl. *Elettaria media* Link ex Horan., in syn.). *Cardamomum costatum* (Roxb.) Kuntze, Revis. Gen. Pl. 222: 686. 1891. *Amomum costatum* (Roxb.) Benth. (in Benth. & Hook.f., Gen. Pl. 3: 644. 1883, as *Alpinia costata* Roxb., comb. in *Amomum* NOT made) ex Baker in Hook.f., Fl. Brit. India 6: 235. 1892. *Hornstedtia costata* (Roxb.) K. Schum. in Engl., Pflanzenr. 20, IV, 46: 198. 1904. *Achasma costatum* (Roxb.) Loes., Notizbl. Bot. Gart. Berlin-Dahlem 10: 62. 1927.

Lectotype: Roxb., Pl. Coromandel 3: t. 252, based on Icon. Ined. 2161 (K, holo; CAL), cultivated in CAL, originally from M.R. Smith, Bangladesh, Sylhet, Garrow Hills, A° 1811, designated here.

Epitype: by lack of a specimen this cannot be appointed.

#### Acknowledgements

A casual remark by Dr. I.M. Turner (K) was the cause of this study. Dr. F. Verloove in vain searched for a Roxburgh duplicate in BR. Dr. J. Leong-Škorníková (SING) surprised me with scans of the British Museum of Natural History (BM) copy of the Roxburgh manuscripts and of the paper by Yusuf *et al.* (1999). Dr. A. Dalberg Poulsen (E) is thanked for his comments on the possible application of this name. Dr. M. Sabu (CALI) kindly provided a copy of the Tripathy (2002) paper. Dr. S.K. Jain (Lucknow) unfortunately had no records dealing with the present problem. Many thanks to Mr. J. Mood (Ninole, Hilo, Hawaii) and Dr. P. Lakshminarasimhan (CAL) for a scan of the CAL drawing.

#### Literature Cited

- Baker, J.G. 1892.** In: Hooker, J.D. (Ed.), *The Flora of British India*. Vol. 6. L. Reeve & Co. Ltd., London. p. 235, 251.
- Benthham, G. 1883.** In: Benthham, G. & J.D. Hooker (Ed.), *Genera Plantarum*. Vol. 3. L. Reeve & Co. Ltd., London. p. 644.
- Burkill, I.H. 1935.** *A dictionary of the economic products of the Malay Peninsula*. Vol. 1. Crown Agents for the Colonies, London. pp. 131 – 137, 910 – 912.
- Horaninow, P.F. 1862.** *Prodromus Monographiae Scitaminearum*. Typis Academiae Caesareae Scientiarum, St. Petersburg. p. 31.
- Jain, S.K. & V. Prakash 1995.** Zingiberaceae in India: Phytogeography and endemism. *Rheedea* 5: 154 – 169.
- Kirtikar, K.R., Basu, B.D. & I.C.S. An 1935.** *Indian Medicinal Plants*. Edition 2. Vol. 4. Basu, Allahabad. pp. 2415 – 2449.
- Loesener, L.E.T. 1927.** Zingiberaceae novae vel minus cognitae. *Notizbl. Bot. Gart. Berlin-Dahlem* 10: 62.
- McNeill, J., Barrie, F.R., Burdete, H.M., Demoulin, V., Hawksworth, D.L., Marhold, K., Nicolson, D.H., Prado, J., Silva, P.C., Skog, J.E., Turland, N.J. & J.H. Wiersema 2006.** International Code of Botanical Nomenclature (“Vienna Code”). *Regnum Veg.* 146. A.R.G. Gantner Verlag KG, Liechtenstein. pp. 568.
- O’Shaughnessy, W.B. 1841.** *Bengal dispensatory and pharmacopoeia*. 2 Vols. Bishop’s College Press, Calcutta. p. 651.
- Rao, A.S. & D.M. Verma 1975.** Materials towards a monocot flora of Assam - II. (Zingiberaceae & Marantaceae). *Bull. Bot. Surv. India* 14: 114 – 143.
- Roxburgh, W. no date.** *Icones ineditae* # 2161. Copies at CAL, K (<http://apps.kew.org/floraindica/home.do>; accessed on 19 May 2010).
- Roxburgh, W. 1814.** *Hortus Bengalensis*. Vol. 2. Mission Press, Calcutta.
- Roxburgh, W. 1820a (18 Feb).** *Plants of the Coast of Coromandel*. Vol. 3. Bulmer & Co., London. Edited by J. Banks, see <http://www.biodiversitylibrary.org/item/9713#1>. p. 48, t. 252.
- Roxburgh, W. 1820b (Jan. – Jun.).** *Flora Indica*. Vol. 1. Mission Press, Serampore. pp. 72 – 73.
- Roxburgh, W. 1832.** *Flora Indica*. Vol. 1. Thacker & Co., Serampore, Calcutta and Allen & Co., Parbury, London. pp. 74 – 75.
- Schultes, J.A. 1822.** *Mantissa*. Vol. 1. Cotta, Stuttgart. pp. 24 – 25.
- Schumann, K. 1904.** Zingiberaceae. In: Engler, H.G.A. (Ed.), *Das Pflanzenreich* 20, IV, 46. Engelmann, Leipzig. p. 198
- Sprengel, K. 1825.** *Systema Vegetabilium*. Vol. 1. Dieterich, Göttingen. p. 14.
- Sweet, R. 1826.** *Hortus Britannicus*. Ridgway, London. p. 390.
- Sweet, R. 1830.** *Hortus Britannicus*. (ed. 2). Ridgway, London. p. 493.

- Tripathi, S. 2002.** Taxonomic revision of the genus *Alpinia* Roxb. (Zingiberaceae) in north-east India. *Phytotaxonomy* 2: 171 – 184.
- Voigt, J.O. 1845.** *Hortus Suburbanus Calcuttensis*. Bishop's College Press, Calcutta. p. 568.
- Yusuf, M., Rahman, M.A. & A.B.M.E. Hossain 1999.** Taxonomic studies in the genus *Alpinia* Roxb. from Bangladesh. *Bangladesh J. Pl. Taxon.* 6: 87 – 95.
- 
- Received: 13.5.2010  
Revised and Accepted: 8.9.2011



# RHEEDEA

Journal of the Indian Association for Angiosperm Taxonomy



विज्ञान एवं प्रौद्योगिकी विभाग  
DEPARTMENT OF  
SCIENCE & TECHNOLOGY

**Published by Indian Association for Angiosperm Taxonomy**

This volume of Rheedia is published with partial financial assistance from  
Department of Science and Technology, Government of India, New Delhi