



Lectotypification and a new synonym of *Ceropegia kachinensis* (Apocynaceae)

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Abstract

Ceropegia kachinensis is lectotypified and *C. farrokhii* is treated here as its synonym.

Key words: *Ceropegia farrokhii*, India, Kachin Hills, Myanmar, Royal Botanic Garden Calcutta

Introduction

Ceropegia Linnaeus (1753: 211) is represented by 244 taxa worldwide (cf., The Plant List 2013), distributed mainly in Africa, Australia, Canary Islands, India, Madagascar, New Guinea, Southeast Asia, and tropical Arabia. In India, there are sixty species, two subspecies and five varieties at present (Kambale & Yadav 2014). Shaik Mokim, belonging to the garden establishment at the Royal Botanic Garden, Calcutta, was trained to collect botanical specimens and brought interesting collections during his repeated visits to Kachin Hills, Myitkyina, Myanmar in the year 1897 (Pottinger & Prain 1898). The specimens brought by him to the Calcutta Herbarium were determined by Dr. David Prain (1857–1944). Shaik Mokim became Prain's collector. During one of his visit, on 16 Oct. 1897, he brought tubers of a species of *Ceropegia* and cultivated them in the Royal Botanic Garden, Calcutta (Acharya Jagdish Chandra Bose Indian Botanic Garden, Howrah). During subsequent visit to the same locality in Nov. 1897, he prepared herbarium specimens of live flowering plants of the species, as on the previous trip he could find the plant only in its vegetative state. In 1900, Prain described *Ceropegia kachinensis* Prain (1900: 170) on the basis of the living specimens which flowered in the Royal Botanic Garden, Calcutta, from the tubers cultivated by Shaik Mokim. In his protologue, Prain mentioned that *C. kachinensis* was 'erroneously distributed in 1898 under the name *C. pubescens*, this is to be found in various collections'. This fact is evidenced from the herbarium specimens at CAL-0000018016, DD, K-000857821, M-0175137 and Z-000001595 belonging to Nov. 1897, which were prepared by Shaik Mokim from Kachin Hills, Myitkyina, Myanmar. All these specimens were later annotated by Prain himself as "*C. kachinensis* Prain" (this is clear from Prain's handwriting; he usually underlined the author's name). No herbarium specimen of the 'living specimens' on which the description of *C. kachinensis* was drawn could be traced. This indicates that either herbarium specimens were not made at all or, if made, they are not extant now. Two herbarium specimens of *C. kachinensis* prepared by Shaik Mokim from the plants which flowered in 1902 produced from the tubers of 16 Oct. 1897 were traced at CAL (CAL-0000018014 and CAL-0000018015). A third specimen was also found which was prepared in 1906 from the plants that flowered on 7 Nov. 1900 at the Royal Botanic Garden, Calcutta. All these specimens were placed by Shaik Mokim at CAL in a single folder under the name *C. kachinensis*.

McCann, while revising Indian *Ceropegia* (McCann 1945) studied all specimens of this genus from all herbaria in India, including the folder of *C. kachinensis* at CAL. During his study, he found that the two specimens of *C. kachinensis* of Nov. 1902, produced from the tubers of 16 Oct. 1897 differed from other specimens by the single character of having 'entire' outer corona lobes. Based on this difference, he described the new species *Ceropegia farrokhii* McCann (1945: 210). During our careful study of the two specimens of *C. farrokhii* at CAL and three of *C. kachinensis* at CAL and DD, we observed that the 5 outer corona lobes were minutely bifid but sometimes appeared entire. This is because during pressing and pasting of flowers the minutely bifid delicate structure of outer corona lobes get so compressed that it flattens out or breaks off giving an 'entire' appearance.

***Ceropegia kachinensis* Prain (1900: 170); Huber (1957: 50); Ansari (1984: 19); Jagtap & Singh (1999: 227); Karthikeyan *et al.* (2009: 162).**

Type:—Myanmar, Upper Burma, Kachin Hills, Myitkyina, November 1897, *Shaik Mokim s.n.* (lectotype K-000857821!, here designated; isolectotypes CAL-0000018016!, DD!, M-0175137!, Z-000001595!).

Ceropegia farrokhii McCann (1945: 210), *syn. nov.*

Type:—Myanmar, Upper Burma, Kachin Hills, Myitkyina (collected on 16 Oct. 1897), flowered at the Royal Botanic Garden, Calcutta, November 1902, *Shaik Mokim s.n.* (holotype CAL-0000018015!; isotype CAL-0000018014!).

Distribution:—India, Bangladesh, and Myanmar.

Notes:—Prain (1900) described *Ceropegia kachinensis* on basis of the living specimens which flowered in the Royal Botanic Garden, Calcutta from the tubers cultivated by Shaik Mokim from Kachin Hills, Myanmar but no specific herbarium sheet was designated by him as holotype. Further no herbarium specimen of these ‘living specimens’ could be traced if they were prepared at all. The specimens mentioned in the protologue by Prain to have been erroneously distributed in 1898 under the name *C. pubescens*, and later annotated by him as *C. kachinensis*, should be considered original material. Five such specimens were traced, one each at CAL, DD, K, M, and Z. The best one of these K-000857821 is chosen here as the lectotype, as it agrees well with the protologue.

Ceropegia farrokhii was described on the basis of two specimens which flowered at the Royal Botanic Garden, Calcutta, in November 1902, raised from the tuber brought by Shaik Mokim in 1897 from Kachin Hills, Myanmar. Of these two specimens, the branching one is mentioned as type in protologue, which is therefore the holotype (CAL-0000018015) and second specimen, the isotype (CAL-0000018014). Both these specimens are mentioned in the protologue with same date of tuber collection as 16 Oct. 1897 and date of flowering in the Royal Botanic Garden, Calcutta, as Nov. 1902, although the two labels are written by two different hands, one of Prain (the isotype). These two specimens were misinterpreted and labelled as isotypes of *C. kachinensis* by M.Y. Ansari.

The specimen CAL-0000018013 was also misunderstood as isotype of *C. kachinensis* by M. Y. Ansari as this was prepared from the plant which flowered at the Royal Botanic Garden, Calcutta, in 1906, brought from the type locality in form of a tuber. However, this is not a part of the type material of either of the two species *C. farrokhii* and *C. kachinensis*.

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References

- Ansari, M.Y. (1984) *Fascicles of Flora of India*. vol. 16. Botanical Survey of India, Howrah, pp. 1–19.
- Huber, H. (1957) Revision der Gattung *Ceropegia*. *Memorias da Sociedade Broteriana* 12: 1–203.
- Jagtap, A.P. & Singh, N.P. (1999) *Fascicles of Flora of India*. vol. 24. Botanical Survey of India, Howrah, pp. 227–228.
- Kambale, S.S. & Yadav, S.R. (2014) Lectotypifications in *Ceropegia* (Ceropegieae: Apocynaceae). *Rheedea* 24(1): 27–28.
- Karthikeyan, S., Sanjappa, M. & Moorthy, S. (2009) *Flowering Plants of India—Dicotyledons (Acanthaceae–Avicenniaceae)*. vol. 1. Botanical Survey of India, Kolkata, 162 pp.
- Linnaeus, C. (1753) *Species Plantarum*, vol. 1. Impensis Laurentii Salvii, Holmiae, 211 pp.
- McCann, Y.M.C. (1945) New species of *Ceropegia* and the synonymy of the Indian species. *Journal of the Bombay Natural History Society* 45: 209–211.
- McNeill, J., Barrie, F.R., Buck, W.R., Demoulin, V., Greuter, W., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Marhold, K., Prado, J., Proudhomme van Reine, W.F., Smith, G.F., Wiersema, J.H. & Turland, N.J. (Eds.) (2012) International code of nomenclature for algae, fungi, and plants (Melbourne Code): Adopted by the eighteenth International Botanical Congress, Melbourne, Australia, July 2011. *Regnum Vegetabile* 154: 1–274.

- Pottinger, E. & Prain, D. (1898) A note on the botany of the Kachin Hills North-East of Myitkyina. *Records of the Botanical Survey of India* 1(11): 215–310.
- Prain, D. (1900) Some new plants from Eastern India. [Natural History] *Journal of the Asiatic Society of Bengal* 69(2): 168–174.
- The Plant List (2013) *The Plant List Version 1.1*. Available from: <http://www.theplantlist.org/> (accessed 6 September 2014).